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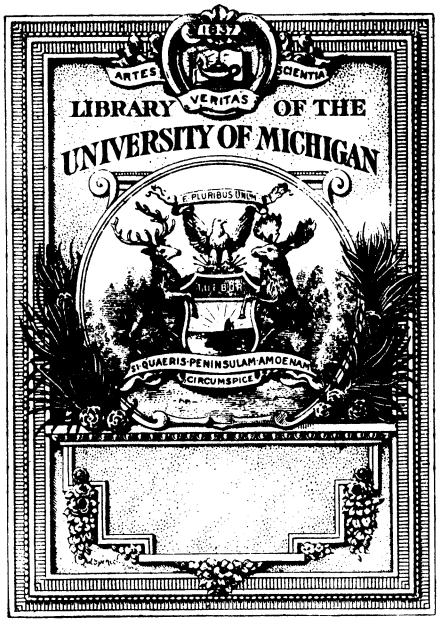

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS

Philippine Islands.

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

MONTHLY BULLETIN
1912

PREPARED UNDER THE DIRECTION OF

REV. JOSE ALGUE, S. J.
DIRECTOR OF THE WEATHER BUREAU

MANILA
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INTRODUCTION.

The form of the BULLETIN as adopted in 1907 and slightly modified in 1908 and 1909 will be retained. To facilitate the understanding of the tables of observations published in the Meteorological Bulletin we beg to remark that the hours of observations are, for the first and second class stations, 2 a. m., 6 a. m., 10 a. m., 2 p. m., 6 p. m. and 10 p. m.; for third and fourth class stations, 6 a. m. and 2 p. m. The time used by the observers is that of the one hundred and twentieth meridian east of Greenwich. The barometer readings are corrected for capillarity and temperature and reduced to sea level, but *not* to standard gravity. The correction which is to be applied to the readings as given, whenever it is desired to reduce them to standard gravity, will be found at the head of each meteorological table.

We subjoin a list of all the meteorological stations of the Weather Bureau in operation on January, 1912, together with the names of the respective observers, who must be held largely responsible for the accuracy of the observations published in these bulletins.

SECONDARY STATIONS AND OBSERVERS OF THE WEATHER BUREAU.

Station.	North latitude.	East longitude.	Observers.	Class.
	° ′	° ′		
Jolo	6 03	121 00	Abundio Enrile	III
Isabela, Basilan	6 42	121 58	Inocencio Rodríguez	IV
Zamboanga	6 54	122 05	Francisco Ventus	III
Davao	7 01	125 35	Lamberto García	III
Cotabato	7 13	124 15	Gregorio Peralta	III
Cagayan, Misamis	8 29	124 38	Santiago Villaflor	III
Dapitan	8 40	123 25	Florencio J. Castillo	IV
Butuan	8 56	125 32	Generoso Copin	III
Dumaguete	9 18	123 19	Matias Ordiales	III
Yap, Western Carolines	9 29	138 08	Prudencio Urbiztondo	III
Tagbilaran	9 38	123 51	Francisco Burgos	II
Surigao	9 48	125 29	Joaquín Ortiz	III
Maasin	10 08	124 50	Águedo Espina	III
Cebu	10 18	123 54	Domingo de los Ángeles	I
Iloilo	10 42	122 34	Ricardo A. Luna	I
San Jose Buenavista	10 44	121 55	Teodoro Peñeiro	III
Cuyo	10 51	121 01	Román Kabigting	III
Ormoc	11 00	124 36	Pedro Baltasar	I
Guiuan	11 03	125 43	Patricio Yabao	IV
Tacloban	11 15	125 00	Perfecto Paulino	II
Capiz	11 35	122 45	Juan Lugod	II
Borongan	11 37	125 26	Alejandro Factor	III
Calbayog	12 04	124 36	Segundo Peñaflorida	II
Masbate	12 22	123 36	H. L. Heath	IV
Romblon	12 35	122 16	Pedro M. Asturias	III
Laoang	12 35	125 01	Doroteo Eusebio	III
Gubat	12 55	124 08	Victorio Ramos	IV
Legaspi	13 09	123 45	Bernardino Costa	I
Sumay, Guam	13 24	144 38	Herbert Taylor	III
Calapan	13 25	121 11	Aquilino Nokom	III
Virac	13 35	124 14	Eusebio Talión	III
Nueva Caceres	13 37	123 11	Eduardo Ontengco	III
Batangas	13 45	121 03	Enrico Cabral	III
Atimonan	14 00	121 55	León G. Guintó	I
Silang	14 14	120 58	Marcos Medina	IV
Paracale	14 17	122 47	Benito Peláez	II

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SECONDARY STATIONS AND OBSERVERS OF THE WEATHER BUREAU—Continued.

Station.	North latitude.	East longitude.	Observers.	Class.
	° ′	° ′		
Santa Cruz, La Laguna	14 18	121 25	Santiago de la Cruz	III
Antipolo	14 36	121 10	Valeriano García	IV
Iba	15 20	119 58	Deogracias Tablán	III
San Isidro	15 22	120 53	Bernardo Pecache	II
Tarlac	15 30	120 35	Valeriano Magat	IV
Baler	15 40	121 34	Santiago Palmero	IV
Dagupan	16 03	120 20	Domingo Torres	I
Bolinao	16 24	119 53	Ezequiel Reinoso	II
Baguio	16 25	120 36	José M. Sison	I
San Fernando, Union	16 37	120 19	Godofredo Resurrección	III
Echagüe	16 41	121 39	Benito Maramba	III
Candon	17 12	120 26	Luis Quismorio	IV
Vigan	17 34	120 23	Joaquín S. Gallego	II
Tuguegarao	17 36	121 40	José C. de León	II
Laoag	18 12	120 35	José Sáez	III
Aparri	18 22	121 38	Manuel Delgado	I
Santo Domingo, Batanes	20 28	121 59	Claudio Castillejos	III

The signs and symbols employed in this bulletin are the following:

Symbol.	Equal to—	Symbol.	Equal to—
Ci.	Cirrus.	u	Ugly or threatening weather.
Ci.-S.	Cirro-stratus.	v	Visibility of distant objects.
Ci.-Cu.	Cirro-cumulus.	w	Wet or heavy dew.
A.-Cu.	Alto-cumulus.	●	Rain.
A.-S.	Alto-stratus.	≡	Fog or mist.
S.-Cu.	Strato-cumulus.	⌓	Dew.
N.	Nimbus.	◎	Solar corona.
Cu.	Cumulus.	◎	Lunar corona.
Cu.-N.	Cumulo-nimbus.	○	Lunar halo.
S.	Stratus.	○	Solar halo.
Fr.-Cu.	Fracto-cumulus.	≋	Heat lightning.
Fr.-N.	Fracto-nimbus.	≋	Thunderstorm.
Fr.-S.	Fracto-stratus.	≋	Thunder without lightning.
S.-cf.	Stratus-cumuliformis.	≻	Strong wind.
N.-cf.	Nimbus-cumuliformis.	⌒	Rainbow.
M.-Cu.	Mammato-cumulus.	∞	Dry mist.
b	Bright, clear sky.	S.	Smooth sea.
c	Cloudy weather.	T.	Tide rips.
d	Drizzling, light rain.	L.	Long rolling sea.
g	Gloomy or stormy looking weather.	M.	Moderate sea or swell.
o	Overcast.	R.	Rough sea.
p	Passing showers of rain.	H.	Heavy sea.
q	Squally weather.		

NOTE.—A small zero (°) or 2 (²) used as an exponent to the above symbols indicates respectively that the intensity of the meteor denoted by the symbols thus affected was small or very great.

INTRODUCCIÓN.

Conservamos en esta publicación la misma forma adoptada en 1907, y ligeramente modificada en 1908 y 1909. Para mejor inteligencia de los cuadros de observaciones que publicamos en el Boletín Meteorológico, téngase presente que las horas de observación para estaciones de primera y segunda clase son 2 a. m., 6 a. m., 10 a. m., 2 p. m., 6 p. m. y 10 p. m.; y en las de tercera y cuarta clase, 6 a. m. y 2 p. m. El tiempo seguido por nuestros observadores es el del meridiano 120 Este de Greenwich. Las lecturas barométricas se dan corregidas de capilaridad y temperatura y reducidas al nivel del mar, pero *no* a la gravedad normal. La corrección que por gravedad debe aplicarse, se da al principio de cada cuadro meteorológico.

Damos en el texto inglés una lista de todas nuestras estaciones con los nombres respectivos de los observadores, los cuales son en gran parte responsables de las observaciones que se publican en estos boletines.

Los signos y símbolos usados en este Boletín son los siguientes:

Símbolos.	Significado.	Símbolos.	Significado.
Ci.	Cirrus.	u	Tiempo feo ó amenazador.
Ci.-S.	Cirro-stratus.	v	Trasparencia del aire.
Ci.-Cu.	Cirro-cumulus.	w	Húmedo.
A.-Cu.	Alto-cumulus.	●	Lluvia.
A.-S.	Alto-stratus.	≡	Niebla ó neblina.
S.-Cu.	Strato-cumulus.	d	Rocío.
N.	Nimbus.	⊕	Corona solar.
Cu.	Cumulus.	⊃	Corona lunar.
Cu.-N.	Cumulo-nimbus.	∪	Halo lunar.
S.	Stratus.	○	Halo solar.
Fr.-Cu.	Fracto-cumulus.	↘	Relámpago sin trueno.
Fr.-N.	Fracto-nimbus.	↯	Tempestad de trueno.
Fr.-S.	Fracto-stratus.	⊢	Trueno sin relámpago.
S.-cf.	Stratus-cumuliformis.	↙	Viento duro.
N.-cf.	Nimbus-cumuliformis.	(	Arco-iris.
M.-Cu.	Mammato-cumulus.	8	Niebla seca.
b	Despejado.	S.	Mar lisa ó llana.
c	Nublado.	T.	Mar rizada.
d	Llovizna ó lluvia ligera.	L.	Mar tendida.
g	Mal cariz; tiempo cerrado, fosco.	M.	Mar moderada.
o	Cubierto.	R.	Mar gruesa.
p	Lluvia pasajera.	H.	Mar alborotada.
q	Achubascado.		

NOTA.—Un ° o un ² puestos como exponentes de los signos, indican respectivamente una muy débil o una muy fuerte intensidad en el meteoro que representan.

BULLETIN FOR JANUARY, 1912.

METEOROLOGICAL BULLETIN FOR JANUARY, 1912.

By Rev. JOSÉ CORONAS, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure for this month was at all the stations throughout the Philippines much higher than during the same month of the preceding year, as is very apparent from the subjoined comparative table. For Manila, it differed from the normal of the month by +1.33 millimeters and from the mean for January, 1911, by +2.63 millimeters. The highest pressures have nearly everywhere been observed on the 27th and the lowest on the 1st or 8th.

The mean monthly temperature, on the contrary, was generally slightly below the corresponding value for the same month of 1911. At Manila, the extremes were: 33.0° C on the 26th, and 15.8° C on the 23d.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS FOR JANUARY, 1912.

Station.	Pressure.						Temperature.					
	Mean.	Departure from Jan., 1911.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from Jan., 1911.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	761.30	-------	762.93	27	759.10	1	25.4	-------	34.1	14	-------	-------
Cebu	61.35	+ 2.78	62.80	27	59.18	1	25.9	— 0.3	32.9	27	18.9	22
Iloilo	61.39	+ 2.60	63.20	27	59.08	1	25.5	— .8	31.2	1	19.8	22
Ormoc	61.63	+ 2.84	63.16	27	59.48	1	24.6	— .5	32.5	19	17.2	22
Tacloban	61.88	-------	63.30	27	59.67	1	25.1	— 1.2	32	19	20.4	24
Capiz	62.19	+ 2.75	63.96	27	60.12	1	25.2	— .8	31.8	10	18.3	22
Calbayog	61.91	+ 2.79	63.53	27	59.72	1	24.5	— .6	33.3	28	17.7	22
Legaspi	62.23	+ 2.75	63.91	27	60.20	1	26.1	+ .3	32.7	19, 24	17.2	23
Atimonan	62.57	+ 2.65	64.60	27	60.51	1	25.6	+ .2	30.5	1	19.4	23
Paracale	62.82	+ 2.80	64.84	27	60.76	1	24.9	— .4	30.8	9	18.8	23
Manila	62.40	+ 2.63	64.64	27	60.42	1	24.2	— .8	33	26	15.8	23
San Isidro	62.54	+ 2.89	64.65	27	60.70	9	24.8	— .2	33.5	2	15.6	24
Dagupan	61.99	+ 2.53	64.11	27	60.30	1	25.5	— .4	34.4	13	17.4	27
Bolinao	61.96	+ 2.45	64.10	27	60.15	8	26	+ .2	32.6	5	19.1	24
Baguio[a]	638.73	+ 1.99	640.30	27	637.17	8	16.5	— .4	25	13	10.6	24
Vigan	762.23	+ 2.59	764.26	27	760.39	8	25.2	+ .1	33.7	4	19.6	31
Tuguegarao	63.51	+ 2.70	65.52	27	60.92	1	23.3	— .3	33	1	15.8	23
Aparri	63.50	+ 2.14	65.86	30	60.85	1	22.9	— .2	30	1	18	30

[a] The barometric readings of this station are not reduced to sea level.

Precipitation.—The following table shows that during this month only 13 stations had a greater rainfall than during the corresponding month of 1911. All the rest report smaller quantities, and it will be noticed that the greatest deficiencies correspond to the stations on Samar Island, to wit Borongan and Calbayog, and to the eastern part of Luzon represented by Aparri, Baler, and Paracale.

At the Central Observatory, the amount of precipitation measured by the rain gauges was 21.9 millimeters which, while 5.1 millimeters below the normal rainfall for the month, exceeds the total for January, 1911, by 13.8 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF JANUARY, 1912.

Station.	Total.	Departure from January, 1911.	Departure from normal.	Rainy days.	Departure from January, 1911.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from January, 1911.	Departure from normal.	Rainy days.	Departure from January, 1911.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*	*mm.*			*mm.*			*mm.*	*mm.*	*mm.*			*mm.*	
Jolo	73.8		— 28.8	4		54.6	1	Sumay, Guam	50.7	— 28.4		12	— 1	7.6	25
Isabela, Basilan	108.3	+ 39.4		5	— 2	67.3	1	Calapan [b]	13.8			7		8.9	13
Zamboanga	90.8		— 58.5	6		58.7	2	Virac	101.3	— 86.5		12	—11	33.5	4
Davao	155.4	+ 72.6	+ 7.5	8	+ 1	31.7	14	Nueva Caceres [c]	1.3			2		1	5
Cotabato	48.8	— 28.9	— 51	7	— 7	21.3	19	Batangas	27.1	+ 10.4		6	+ 1	6.9	4
Cagayan, Misamis	20.8			6		16.8	29	Atimonan	89.3	— 55.3	—110.4	14	— 3	47.8	30
Butuan	96.8	— 65	—104.2	14	—11	20.9	19	Silang	67.7	+ 58.3		11	+ 9	27.1	4
Dumaguete	16.6	.3		7	— 2	4.3	13	Paracale	225.7	—154.6		23	+ 4	52.9	4
Yap, W. Carolines [a]	65.8			7		26.9	30	Sta. Cruz, La Laguna	37.8	— 13.2		15	+ 8	21.5	4
Tagbilaran	4.5	— 77.9	— 92.5	2	— 9	3	6	Manila	21.9	+ 13.8	— 5.1	5	0	10.4	10
Surigao	233.2	— 15.9	—108.1	20	— 1	69.1	18	Antipolo	21.8	3.3		5	— 1	10.4	12
Maasin	73.7	—118.9	— 68.6	3	— 5	42.9	29	Iba	9.7	— .2		3	+ 2	5.5	29
Cebu	25.3	— 42.8	— 76.7	7	— 1	9.2	6	San Isidro	5.6	— 8.4	— 8.5	2	0	3.8	4
Iloilo	8	0	— 43.1	7	— 1	2.8	12	Tarlac	23.8		18.9	3		19.8	10
San Jose Buenavista	.5			1		.5	12	Baler	200.9			16		38.6	12
Cuyo	0	0		0	0	0	0	Dagupan	8.1	+ 6.6	— 3.1	1	— 1	8.1	10
Ormoc	67.5	— 18.1	—123.5	12	0	45.2	12	Bolinao	2.3	— .8	— 1.2	1	0	2.3	19
Guiuan	98			18		38.8	12	Baguio	2.6	+ .3	— 28	3	+ 2	1.3	19
Tacloban	102.3	+ 18		19	+ 7	48.4	12	San Fernando, Union	0	— .8	— 12.1	0	— 1	0	0
Capiz	17.3	— 31.1	—144.2	7	— 6	5.8	6	Echagüe	21.1	— 11.7		11	0	4.4	2
Borongan	196.5	—260.5	—317.2	26	0	36.6	12	Candon	6.4	+ 6.4		1	+ 1	6.4	8
Calbayog	30	—146.6	—121.8	9	—10	6.3	9, 12	Vigan	0	0	— .3	0	0	0	0
Masbate	29.1	— 44.6		10	— 4	10.9	12	Tuguegarao	28.6	+ 24.3	+ 9.4	5	+ 3	8.9	7
Romblon	67.1	+ 2.6		10	0	23.9	12	Laoag	6.7	+ 4.2		2	+ 1	6.4	9
Laoang	95.9			18		21.3	6	Aparri	185	—118.8	— 29.8	13	— 5	50.2	29
Gubat	113.6			23		21	12	Sto. Domingo, Batanes	233.4	— 55.7		25	— 8	27	19
Legaspi	77.8	— 91	—345	15	— 1	33	11								

[a] 22 days of observation only. [b] 25 days of observation only. [c] 21 days of observation only.

DEPRESSIONS AND TYPHOONS.

No typhoon, nor any depression of importance, occurred during the entire month. We may, however, mention a slight depression which appeared during the early morning of the 9th not far from Balintang Channel, and seems to have moved with great velocity successively toward east, east-northeast, and northeast across the Pacific Ocean, reaching a position to the west of the Bonin Islands by noon of January 10.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes es para todas las estaciones de Filipinas mucho mayor que la del año pasado, según puede verse en la tabla de presión y temperatura que acompaña el texto inglés. La de Manila difiere de la normal de este mes en +1.33 mm. y de la media de Enero, 1911, en +2.63 mm. Las presiones mayores se observaron casi en todas partes el día 27, y las menores los días 1 y 8.

La temperatura media mensual es generalmente un poco inferior a la del año pasado. Los valores extremos de Manila fueron 33°C y 15.8°C, registrados los días 26 y 23 respectivamente.

Precipitación acuosa.—En la tabla de lluvia que publicamos en el texto inglés se echará de ver que sólo trece estaciones dan este mes un total de lluvia mayor que en Enero 1911: las demás lo dan menor, siendo de notar que las diferencias negativas más notables son las que corresponden a las estaciones de la isla de Sámar, como Borongan y Calbayog, y a la parte oriental de Luzón, como Aparri, Baler y Paracale.

En los pluviómetros del Observatorio Central se registraron en todo el mes 21.9 mm. de agua, cantidad inferior a la normal de este mes en 5.1 mm., pero mayor que el total del año pasado en 13.8 mm.

DEPRESIONES Y TIFONES.

No ocurrió en todo el mes de Enero tifón o depresión alguna de importancia. Sólamente mencionaremos una ligera depresión que apareció la madrugada del día 9 no lejos del canal de Balintang, la cual se movió al parecer con mucha velocidad hacia el E, ENE y NE sucesivamente a través del Pacífico, viniendo a hallarse hacia el W de las islas Bonin a mediodía del 10.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[a]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, −1.72 mm.]

Date.	Pressure (mean).	Air temperature.[b] Mean.	Maximum.	Minimum.	Underground temperature. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity (mean).	Vapor pressure (mean).	Evaporation.[b] Free exposure (total).	Shelter (total).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	*Per ct.*	*mm.*	*mm.*	*mm.*
1	760.42	24.3	32.1	17.2	24.3	26.3	25.8	26.1	27.1	27.9	74.1	16.4	4.8	3.5
2	60.96	24.8	31.8	20.2	25.2	27.3	26.3	26.4	27.3	27.9	74	17	4.2	2.9
3	61.60	24.6	32.9	18.4	24.7	27	25.9	26.3	27	27.9	70.1	15.7	5.7	4.4
4	61.69	24.1	28.5	20.8	25	26.5	26.1	26.1	27.1	27.9	86.4	19.3	.7	1.2
5	61.07	25.2	32.6	21.5	25.2	26.8	26	26.4	27.1	27.9	76.9	17.9	4.2	3.2
6	60.94	24.4	32.5	19.4	24.9	27.1	26	26.7	27	27.9	77.1	17.2	4.2	3.5
7	61	23.7	31.2	19.1	25	26.1	26	26	27	27.9	75.5	16.2	3.7	3.2
8	60.94	23.5	30.8	19.6	24.3	26.2	25.8	26	26.9	27.8	78.2	16.7	3.2	2.8
9	60.71	24.2	31.4	17.6	24.2	26.5	25.6	26.2	27	27.7	78.3	17.4	3.7	2.6
10	61.50	24.6	30.2	22.1	25.3	26.3	25.8	26.2	27.1	27.9	85.9	19.7	1.2	1.1
11	62.20	25.5	32.2	22.3	25.2	26.9	26	26.3	26.9	27.8	82.5	19.8	3	2.3
12	62.58	24.7	30.1	20.8	25.8	26.9	26.3	26.4	27.1	27.9	86.9	20	1.5	1.3
13	62.50	24.8	30.4	22.2	25.8	27.1	26.3	26.6	27	27.8	81.1	18.7	3.2	2.4
14	62.68	24.9	31.3	21	25.5	26.9	26.4	26.6	27	27.9	76.1	17.6	3.8	3
15	62.70	24.4	32	19.8	25.2	27	26.3	26.6	27.1	27.8	76.9	17.3	4	3.1
16	63.21	24.3	32.2	18.8	25	26.9	26.3	26.5	27	27.8	74.8	16.7	4.4	3.4
17	63.31	24.4	32.4	18.5	25	26.9	26.2	26.5	27	27.8	74.5	16.6	4.8	3.6
18	63	24.5	31.9	18.3	25	27	26.2	26.5	27.1	27.8	75.2	17	4.8	3.5
19	63.61	24.2	31.2	19.6	25.2	26.7	26.2	26.4	27.1	27.7	76.2	16.9	3.8	3.5
20	63.35	23.8	32	18.6	24.8	26.2	26.1	26.3	27	27.6	74.1	16	4.2	3.2
21	63.11	23.8	30.5	18.7	24.8	26.8	25.9	26.4	27	27.5	73.9	16	4.9	3.6
22	62.59	23.4	31.5	17.8	24.7	26	25.9	26.1	27	27.6	68.9	14.4	4.7	3.8
23	62.42	22.7	32	15.8	23.6	26.6	25.4	26	26.9	27.6	69.3	13.7	5.1	3.9
24	62.83	23.3	31.3	16.3	24	26.3	25.4	25.8	26.9	27.7	73.5	15.4	4.4	3.5
25	62.73	23.6	31.8	17.5	24.2	26.2	25.5	25.7	26.9	27.6	74.9	16	4.4	3.5
26	63.32	23.7	33	16.5	24.1	26.6	25.3	25.8	26.8	27.6	72.6	15.3	5.3	4.1
27	64.64	22.8	30.2	18.5	24.2	25.8	25.5	25.6	26.8	27.6	79.1	16.1	2.2	2.5
28	63.92	24.1	32	19.3	24.3	26.4	25.4	26	26.8	27.7	72.8	15.7	4.9	3.9
29	63.31	23.7	32.4	16.8	24.3	27.1	25.4	26.1	26.9	27.8	74.9	16	4.8	3.5
30	63.09	24.6	30.5	21	25.1	26.4	25.8	26.1	26.8	27.7	74.5	17	4.1	3
31	62.55	25.1	31.2	21.2	25	26.6	25.8	26.2	26.8	27.7	74.8	17.4	4.3	3.3
Mean	762.40	24.2	31.5	19.2	24.8	26.6	25.9	26.2	27	27.8	76.3	16.9	3.9	3.1
Total													122.2	96.3
Departure from normal	−1.33	−0.7	+1.4	−1.2							−1.7	−1.3		

Date.	Wind. Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Sunshine. h.	m.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	*Km.*		*0–10.*					*mm.*	
1	E quad.	138	16.5	ESE	5.8	Ci.	Cu. EbyS	7	40		
2	Variable	122.5	12	WNW	6.8	Ci.	Cu. E	7	00		
3	E quad.	194	23	ENE	8.7	Ci.	Cu. E	3	05		
4	N quad.	107.5	13	N	8.9	Ci.-S.	Cu.-N. E	2	25	6.7	d a. ●° p.
5	E quad.	137.5	20	E	5.9	A.-Cu.	Cu. E	6	15	.2	
6	E quad.	108.5	14.5	W	3	A.-Cu.	Cu. E	8	30		
7	E quad.	110	15	ESE	5.8	A.-Cu.	S.-Cu. E	4	30		d° a.
8	ESE	181.5	24	ESE	9.1	Ci.-S., A.-Cu.	Cu.-N. ESE	2	05		d° a.
9	WNW, SSE	107	14	WNW	3	Ci.	Cu.	8	50		Ω a.
10	Variable	56	6.5		8.7	A.-Cu.	Cu.-N. E	1	15	10.4	● p.
11	Variable	105.5	12.5	WSW	8.1	Ci.	Cu. E quad.	7	00		
12	N quad.	95.5	10	NE	9.4	A.-Cu.	Cu.-N. E	1	40	3.3	●° a. p.
13	E quad.	222	17.5	SE	8.4	A.-Cu.	Cu.-N. E	2	40	1.3	●° a. p.
14	E quad.	195.5	15	SE	5.7	Ci.	Cu. E	5	45		
15	WNW, ESE	175.5	17.5	NW	6.7	A.-Cu.	Cu. E	8	35		
16	SE quad.	194	15	W	3.4	Ci.	Cu. E	9	10		
17	SE quad.	204.5	25	SSE	3.4	Ci.	Cu. E	8	35		
18	E quad.	238	20	ESE	3.2		Cu. E	9	10		
19	SE quad.	163.5	16	E	5.5	Ci.-S.	Cu. E	6	40		
20	E quad.	145	12	W	6.2	Ci.-S.	Cu. NE	6	10		Ω a.
21	SE	234	20	SE	5.5	Ci.	Cu. E	9	10		
22	SE quad.	197	18.5	SE	4.4		Cu. E	7	40		
23	NW quad.	187	18	WNW	1.7		Cu. E	9	35		
24	SE	195.5	16.5	WNW	1.7		Cu.	9	50		
25	SE quad.	178.5	16.5	SE	5.9	A.-Cu. SE	Cu. E	6	35		
26	SE	186	20	SE	3.1		Cu. E	10	05		
27	NE quad.	120.5	15	NE	9.9	A.-Cu.	S.-Cu. E	0	00		d° p.
28	E quad.	170	16	NNE	8.7	A.-Cu.	Cu. E	2	30		⌒ a. d° a. p.
29	SE quad.	150	16.5	W	2.8		Cu. E	9	25		
30	E quad.	101	18	SE	9.2	A.-Cu.	N.-cf. ENE	2	00		
31	E quad.	142	14	ENE	7.3	A.-Cu.	Cu. E	4	05		
Mean		156.9	16.4		6			6	04		
Total								187	55	21.9	
Departure from normal		−9.0			+0.8			−6	13	−5.1	

[a] All the mean values given in this table are deduced from hourly observations.
[b] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[a]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 26.2 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.10	26.4	32.4	------	82.2	E quad.	0.7	6.8	Ci.-S.	Cu. E	------	
2	59.59	25	32.5	------	79.7	E quad.	.8	6.5	Ci.-S.	Cu.	------	☾° p.
3	60.33	24.2	31.4	------	83.8	SE, S	.5	7	Ci.-S.	Cu. E	1.5	☊² a. ☾° p.
4	60.43	25.6	33.6	------	81.8	SSE, E	.8	4.3	Ci.-S.	Cu. E	------	●° a.
5	59.74	25.7	33.6	------	72	E quad.	1	1.7	Ci.	Fr.-Cu. E	------	☊° a.
6	59.36	25.9	31.8	------	83.7	E quad.	.7	4.2	Ci.	Cu., Fr.-Cu. E	3	d° ●° a.
7	59.77	26.1	33.2	------	77.2	SE quad.	1	5.3	Ci.-S.	Cu. E	------	☊° d° ⌒° a. ☋² p.
8	60.04	25.2	31.9	------	79.7	S	.8	3.7	Ci.	Cu. E	------	☊° a. ☋° p.
9	60.12	24.7	31	------	81.3	S	.8	1.7	Ci.	Fr.-Cu. E	------	☊² a.
10	60.78	25	31.5	------	81.8	S	.7	2.5	Ci.	Cu.	------	☊° a.
11	61.64	25.5	32.1	------	77.7	Variable	.7	4.5	Ci.-S.	Fr.-Cu. SE	------	
12	61.13	25	31.5	------	84.7	SE quad.	.8	3.7	Ci.-S.	Cu. E	------	☊° a.
13	61.47	25.1	30.8	------	84.7	S, SSE	.5	6.3	Ci.-S.	Cu. E, ESE	------	
14	61.48	25.8	34.1	------	73.2	NE	1.2	2.2	Ci.	Fr.-Cu. E	------	☊° a.
15	61.26	26.4	33.8	------	73.7	E quad.	1.2	2.2	Ci.	Cu. E	------	
16	61.98	26	32.6	------	81	E quad.	.8	3.3	Ci.	Cu. E	------	☊° a.
17	62.16	25	32.1	------	80.2	E quad.	.8	5.8	Ci.	Cu., N. E quad.	------	☊² a. d° p.
18	61.92	25.6	30.6	------	79	NE	.2	7.7	Ci.-S.	Fr.-N., Cu. E, ENE	------	d° p.
19	62.38	25.6	34	------	73.8	NE	1.2	1.8	Ci.	Fr.-Cu. ENE, E	------	☊° a.
20	62.24	25.4	33.1	------	79.5	NE, S	.5	3.5	Ci.	Cu. E, SE	------	
21	61.97	24.6	33.3	------	81.8	NNE, S	.7	5.3	Ci.-S.	Fr.-N. NE	------	
22	61.87	24.8	32.7	------	78.8	S	.8	1.7	Ci.	Cu. SE	------	
23	61.68	25.2	31.8	------	82.8	S	.2	3	Ci.	Cu. NE	------	
24	62.28	25.7	31.8	------	78.3	SE, S	.8	3.2	Ci.-S., Ci.	Cu. E	------	
25	61.94	25.5	32.4	------	77.5	NNE, NE	.5	1.5	Ci.	Fr.-Cu. E	------	☊² a.
26	62.33	25.3	31.6	------	81.7	E quad.	.8	2.7	Ci.	Cu. E, SE	------	☊² a. ☋² p.
27	62.93	25.3	33.4	------	80.7	NE, S	.7	6.5	Ci.-S.	Cu. E	------	☊° a.
28	62.69	25.8	33.1	------	77.2	SE quad.	.8	4.8	Ci.-S.	Cu. ENE, E	------	☊° a.
29	62.11	26	32.9	------	79.7	NE, S	.8	5	Ci.	Cu. E quad.	------	
30	61.89	25.3	33.3	------	78.3	SE	.3	1.5	Ci.	Cu. E	------	☊° a.
31	61.75	25.2	32.3	------	77.8	Variable	.7	1.5	Ci.	Cu. E	------	☊² a.
Mean	761.30	25.4	32.5	------	79.5		.7	3.9				
Total											4.5	

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.18	26.1	29	23.3	76.3	NE quad.	1	6.5	Ci., A.-Cu.	Cu.	------	d° a. ☋ p.
2	59.77	26	29.6	23.4	74.8	NE quad.	1.7	4	Ci., Ci.-S.	Cu., S.-Cu.	------	d° a.
3	60.50	25.2	29	22.9	76.2	NE	1	7	Ci., Ci.-S.	Cu.-N.	1.3	d° p.
4	60.65	26	29.5	23.1	70.7	NE quad.	1.5	4.8	Ci.	Cu., Cu.-N.	------	● a.
5	59.98	26.5	30	23.4	70.3	NE quad.	1.3	1.2	Ci., Ci.-S.	Cu.	------	d° a.
6	59.46	25.7	29	23.3	83.7	NE quad.	1.2	7.5	Ci.-S.	Cu.-N., N.	9.2	●° a. d° ☋ p.
7	59.94	25.6	29	22.6	75.5	ENE	1.8	5.5	A.-Cu.	Cu.-N.	5.3	● a.
8	60.20	25.1	29	21.7	77.3	ENE, E	1.3	5.5	Ci.	Cu.-N. NE	------	●° a.
9	60.06	25.7	31.2	20.9	74.7	E, ENE	.7	5.5	Ci.-S.	S.-Cu. NE	------	☊ a.
10	60.79	26.5	28.9	23.5	72.7	NE quad.	.7	3.7	Ci.	Cu. ENE	------	☊ a.
11	61.63	25.8	28.2	23	74.7	E	.5	5.8	Ci.-S.	Cu., Cu.-N. ENE	------	☊ a.
12	61.55	26	29.5	22.4	74.5	E, NE	.7	5	Ci.	Cu., S.-Cu. ENE	7.2	● p.
13	61.65	26.1	29.2	22	73.3	E	1.5	5.5	Ci.	Cu. NE	------	d ● a.
14	61.40?	25.4	30	20.5	66.5	NE, E	1	3.7	Ci.	Cu. NE	------	☊ a.
15	61.46	26.6	31.2	22.6	66.3	ENE, NE	1.2	3.2	Ci.	Cu. NE	------	☊ a. d° p.
16	62.27	26.2	31.4	22.7	64.7	NE	1	2.3	Ci.	Cu. ENE	------	☊a.
17	62.16	26.1	30.5	20.9	67.5	NE quad.	1.2	4.3	Ci.-S.	Cu. NE	------	☊ a.
18	61.96	25.9	30	22	67.8	NE	1.2	6.3	Ci.-S., A.-Cu.	Cu.-N. NE	------	☊ a.
19	62.49	26.3	30	21.8	63.7	NE quad.	1.3	3	Ci.	Cu. ENE	------	
20	62.24	25.6	30	22	68.3	NE quad.	1	5.8	Ci.-S.	Cu., Cu.-N. ENE	1.3	☊ a. ●° p.
21	61.90	25.1	29	21.4	66.2	NE quad.	1.3	4	Ci.	Cu. NE	------	
22	61.84	25.2	29.6	18.9	67.7	E	1.2	3.3	Ci.	Cu. NE	------	
23	61.55	26	29.6	21	72.5	E	1.2	3.5	A.-Cu. E, N	Cu. ENE	------	
24	62.28	25.7	29.7	20.6	72.8	E	1	2.3	Ci.	Cu. ENE	------	☊ a. ∞ p.
25	62.03	25.8	30.2	21.7	72.2	NE quad.	1.3	3.2	Ci.	Cu. E	------	☊ a.
26	62.28	25.7	30.6	21.5	72.5	NE	1.3	3.5	Ci.	Cu., S.-Cu. ENE	------	☊ a.
27	62.80	26.3	32.9	21.5	66.3	NE quad.	1	4.7	A.-Cu. E	Cu., Cu.-N. NE quad	------	☊ a.
28	62.37	26.7	30.2	23.8	66.3	NE, E	1.3	5.2	Ci.	Cu., S.-Cu. NE quad	------	d° p.
29	62.02	26	30.3	21.9	71.7	E	.8	3.2	Ci., A.-Cu.	Cu. NE	1	☊² a. ●° p.
30	61.79	25.7	30.1	20.4	71.5	NE quad.	1.2	2.5	------	Cu. NE	------	∞ ☋ p.
31	61.62	25.8	30.4	22	72.3	E	1.2	2.5	------	Cu. ENE	------	☊² a.
Mean	761.35	25.9	29.9	22	71.3		1.1	4.3				
Total											25.3	

[a] All the mean values given in these tables are deduced from six daily observations.

Meteorological data for first and second class stations—Continued.

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.08	25.6	31.2	22.8	76.7	NE	2.3	4.7	Ci., Ci.-S.	Cu. NE		Ω a. d p.
2	59.85	25.9	30.3	22.5	71	NE	2.3	4.7	Ci.	Cu.		Ω a. ⌣ p.
3	60.30	25.4	29.7	23.1	76.8	NE	2.5	7.5	Ci.	Cu.	0.3	● p.
4	60.34	25.6	30.1	22.5	72.2	NE	2.8	6	Ci.	Cu. NE	.5	● a.
5	59.61	25.9	30.7	22.4	71.3	NE	2.8	3.2	Ci.	Cu.		Ω° a. ∞ p.
6	59.29	.26	30.6	22.9	78.8	NE	2.7	5.5	Ci.	Cu. NE	1.3	Ω d° a. ● p.
7	59.99	25.3	29	22.3	73.8	NE	3	5.8	Ci.	Cu. NE		
8	60.06	25.1	30.1	21.1	74.5	NE	2.3	4.8	Ci.	Cu. NE	1	Ω² a.
9	60.17	25.5	30.3	22.2	78	NE	1.5	2.7	Ci.	Cu. NE		
10	60.70	25.8	30.5	22.7	73.7	NE	1.3	4	Ci.-S., Ci.	Cu.	.8	d ● a.
11	61.40	25.6	30.1	22	74.3	N quad.	1.8	5.8	Ci.-S., Ci.	Cu.	.8	● ◠ a.
12	61.44	26.2	30.7	23	75	N quad.	1.5	5.3	Ci.	Cu.	2.8	●° a. d p.
13	61.55	25.6	30	22.8	79.3	N quad.	1.8	5	A.-Cu.	Cu. NE	.5	● d ◠ a.
14	61.98	25	29.5	21.5	72.2	N quad.	2.2	3.2	Ci.	Cu.		Ω² a. ∞ p.
15	61.71	25.2	30.1	21.4	73.3	N quad.	1.7	3.7	Ci.	Cu. NE		Ω² a.
16	62.29	25.4	30.4	21.5	70.2	N quad.	2.2	2.7	Ci.	Cu.		Ω° a. ∞ p.
17	62.58	25.6	30.3	21.6	70.8	NE	2.3	2.8	Ci.	Cu.		
18	62.11	25	30.5	21.4	73.5	NE	2.5	3.8	Ci.	Cu.		
19	62.63	24.9	29.4	22	76.2	NE quad.	2.5	3.3	Ci.	Cu. ENE		Ω a.
20	62.42	25.2	30	21.7	73.2	NE quad.	2	4.8	Ci.	Cu.-N. ENE		Ω a.
21	62.28	24.7	29.9	21.5	73.5	NE	1.8	3.3	Ci.	Cu. NE		Ω² a. d p.
22	61.95	24.4	28.2	19.8	69.5	NE qnad.	1.8	2.3	Ci.	Cu. NE		Ω² a.
23	61.71	24.6	30	20.1	75	NE quad.	1.5	2.3	Ci.	Cu.		Ω² a.
24	62.09	25.7	30.5	22	66	NE quad.	1.5	3.8	Ci.	Cu. ENE		d a.
25	61.82	25.6	31	21.6	68	NE quad.	2	1.8	Ci.	Cu.-N. ENE		
26	62.27	26	31.1	21.7	68	NE quad.	2	2.5	Ci.	Cu. NE		Ω a.
27	63.20	25.5	30	21.6	73.2	NE quad.	2.5	2.8	Ci.	Cu. NE		Ω a.
28	62.68	25.4	29.5	21.6	73	NE quad.	2	3.7	Ci.	Cu. NNE		Ω a.
29	62.12	25.6	31	21.8	73.7	NE quad.	2.3	1.8	Ci.	Cu. NNE		Ω² a.
30	61.82	26	31	21.9	66.7	NE quad.	1.7	.7	Ci.	Cu.		Ω° a.
31	61.60	25.7	31.1	21.1	68.5	NE quad.	1.7	.8	Ci.	Cu.-N. ENE		Ω a.
Mean	761.39	25.5	30.2	21.9	72.9		2.1	3.7				
Total											8	

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*				*mm.*	
1	759.48	25.6	30.8	21.8	73	NE	0.5	7.8	Ci.	E	Cu.-N. E		
2	60.23	25.2	30.2	20.2	74.8	NE quad.	.8	7.3	Ci.-S.		Cu.-N. E		⊽ p.
3	60.79	25.4	29.4	21.8	75	NE	.5	8.3	Ci.-S.		Cu.-N. E	0.3	p ◠° ⊽ p.
4	60.85	25.6	29.3	22.6	70.5	E quad.	.8	6.8	Ci.-S.		Cu. E	1.5	p a. d ◠° p.
5	60.14	26.8	30.9	22.2	64	NE quad.	.7	5.8	Ci.-S.		Cu., Cu.-N. E		
6	59.57	25.7	30.2	22.8	79.5	N	.7	9	Ci.-S.		Cu.-N. E	2.8	d p.
7	60.11	25.4	30.2	19.5	72.2	NE quad.	.7	5.5	Ci.		Cu., Cu.-N. ENE		●° a.
8	60.38	23.7	27.9	19.5	84	NW, SW	.3	7.2	Ci.-S.		Cu.-N. E, ENE	.5	≡° p a.
9	60.36	23	27.8	18	87.8	N quad.	.2	4.7	Ci.		Cu.-N. E	.3	≡ a. p p.
10	61.08	24.4	29.7	20.2	81.3	Variable	.5	5	Ci.-S.		Cu.-N. NE		≡° a.
11	61.94	23.4	29.3	18.2	85.7	N, NE	.5	5.2	Ci.	SW	Cu., Cu.-N. NE		≡ a.
12	61.77	23.7	27.2	20.3	89	Variable	.2	7.2	Ci.-S.		Cu.-N., N. E	45.2	≡° d a. ●² p.
13	61.91	26	30.5	21.9	73.7	NE	1	5.7	Ci.		Cu., Cu.-N. E		≡° a. ◠ a. p.
14	61.92	25	31.7	19.7	71.3	N, NE	.3	3.5	Ci.		Cu. ENE		
15	61.90	25.3	31.2	19.1	70.3	NE quad.	.7	3.5	Ci.	SSW	Cu.-N. NE		
16	62.49	25.5	31.6	20.4	71.2	NE quad.	.5	4.5	Ci.		Cu., Cu.-N. E		
17	62.54	24.5	32	18.5	74.3	N, ENE	.3	3.5	Ci.	SSW	Cu.-N. NE		≡° a.
18	62.19	25.6	31.4	20.5	69.3	NE quad.	.8	4.8	Ci.-S.		Cu.-N. ENE		
19	62.81	24.4	32.5	17.7	76	NE quad.	.3	4.8	Ci.-S.		Cu. NE		
20	62.42	24.3	30.2	19.6	78.2	NE quad.	.5	6.7	Ci.-S.		Cu.-N. NE	.8	p p.
21	62.11	23.4	30.1	18	77.7	N, NE	.5	3.3	Ci.	W	Cu. NE		Ω a.
22	62.02	23.6	30.5	17.2	75.7	Variable	.5	2.8	A.-Cu.		Cu. ENE		Ω° a.
23	61.93	24.4	29.1	20.5	82.5	N quad.	.3	7.8	Ci.-S.		Cu.-N. ENE	.3	p p.
24	62.50	24.4	30.4	18.1	74	NE quad.	.7	1	Ci.		Cu.		Ω a.
25	62.19	24	30	17.5	77	NE quad.	.8	1.5	Ci.		Cu. E		Ω a.
26	62.70	22.6	31.6	19.3	85	N	.7	5.5	Ci., A.-Cu.		Cu. NE	9.7	● a. p. ⊽ p.
27	63.16	23.8	29.8	18.6	80.5	N	.3	6.7	Ci.	SW	Cu.-N. E	6.1	≡° a. ● ⊽ p.
28	62.72	24.4	30.3	19.9	77.3	N quad.	.5	6.5	A.-Cu.		Cu.-N. E		≡° a. ⊽° p.
29	62.34	24.4	29.5	20.2	81	Variable	.3	8.5	A.-Cu.	SW	Cu.-N. ENE		p a. p. ⊽° p.
30	62.11	25	30.4	19.2	75.3	N, SW	.8	3	Ci., A.-Cu.		Cu. E		Ω° a. ⊽° p.
31	61.96	24.4	30	18.4	77.5	Variable	.7	3.2	Ci.		Cu. E		Ω° a.
Mean	761.63	24.6	30.2	19.7	76.9		.5	5.4					
Total												67.5	

Meteorological data for first and second class stations—Continued.

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 3.4 meters; gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.67	25.8	31.4	22.7	84.8	E	0.8	8.5	Ci. SW	Cu. ENE	.....	● a.
2	60.46	25.4	29.3	22.6	80	NE quad.	.3	8	Ci.-S. SW	Cu. ENE	2.3	● a. ☾² p.
3	61.17	24.9	29	21.9	85.5	NE quad.	.3	7.7	Ci. SW	Cu. ENE	2.5	☾² a. ● a. p. ☿² p.
4	61.04	25	30.5	21.2	85.5	SE quad.	.7	5.8	Ci.	Cu.-N. ENE	1	☊° ● a.
5	60.33	26.1	31.2	22	80.8	E quad.	.8	6.3	Variable	Cu. ENE, NE	2.8	● p.
6	59.95	25.6	30.8	23.2	88.2	SE quad.	.7	8.2	.....	Cu. NE	13.7	● a. p. d p.
7	60.54	24.4	29.9	22.2	80.5	NW quad.	1.2	5	.....	Cu., Cu.-N. NE	3.1	● d a. ☊² p.
8	60.59	24.4	28.5	21.9	85.7	NW quaq.	.8	8	Ci.	Cu.-N. NEbyE	6.4	● d a.
9	60.31	24.5	28.6	22	86.7	N quad.	.7	7.2	Ci.-Cu. W	N. NE, ENE	4.5	● a.
10	61.43	24.3	29.4	21.5	89.5	NW	.7	4.7	Ci.	Cu. NE	2.3	☊² a. p. ● p.
11	62.18	24.9	29.4	22	85	NW quad.	.3	7.2	Ci. WSW	Cu., Cu.-N. NE	1.3	☊² a. ● p.
12	61.88	24.4	28.3	21.8	90.3	NE quad.	.2	7.8	Ci.-Cu.	N. ESE	48.4	☊² ● a. ●² p.
13	62.26	25.6	30.3	22	78.8	E quad.	1.3	5.8	Ci. WSW	Cu.-N. ENE	.....	● a. ☊² p.
14	62.12	25	30.6	21.4	80.5	WNW, NW	1	2.8	Ci.-S. WSW	Cu. NE	.....	☊² a. p.
15	62.12	25.6	31.3	22.6	78	NW	1.2	4.8	Ci.	Cu.-N. NE	.....	☊² p.
16	62.63	25.2	31.3	21.7	78.5	WNW	.8	2.2	Ci.-S. W	Cu. NE	.....	☊ a. p.
17	62.67	25.2	31	21.4	79.7	NW	1.5	3.2	Ci. W	Cu. NE	.....	☊² a. p.
18	62.58	25.7	30.8	22	76	NW	1.2	5	Ci.-S. W	Cu. NE	.....	☊² p.
19	63.03	25.4	32	21.2	80	NW, E	1.2	3.7	Ci.-S. W	Cu. NE	.....	☊² a. p.
20	62.67	25.2	31	22	80.5	N quad.	1.3	4.5	Ci. W	Cu. ENE	1.8	☽² a. ☊² a. p. ● p.
21	62.46	25	31.5	21.2	78.8	NW quad.	1.3	2.7	Ci.-S. W	Cu. NE	.....	☊² a. p.
22	62.12	24.9	30	20.7	76.8	N quad.	1	4.3	Ci.-S.	Cu. NEbyN	3.6	☊² a. d p.
23	62.04	25.7	30.3	22.2	77.8	NW quad.	.3	7	Variable W	Cu. ENE	.....	● d a.
24	62.82	25.5	30.7	20.4	79	N quad.	.3	2.2	.....	Cu. ENE	.....	☊² a. p.
25	62.64	25.4	30.8	21	80	NW quad.	1	1.5	.....	Cu. ENE	.....	☊² a. p.
26	62.85	24.9	30.5	22.3	85.7	SE	.7	3.3	.....	Cu., Cu.-N. NE	1.8	☊² ● a. p.
27	63.30	25.3	31	22.5	80.2	N quad.	1.2	3.3	Ci.-S.	Cu. NE	.....	☊² a.
28	62.97	25.2	31	22.2	80.8	WNW	.8	6.7	Ci.-S.	Cu.-N. NE	4.8	● p.
29	62.77	24.1	29.2	22.2	87	NW quad.	1.2	7.3	.....	Cu.-N. NE	2	d ● a. p.
30	62.37	25.3	30.8	21.3	80.8	SE quad.	.8	2.8	.....	Cu. ENE	.....	☊² a.
31	62.14	25	30.6	21.3	80.3	W quad.	.7	4	A.-Cu.	Cu. ENE	.....	☊² a.
Mean	761.88	25.1	30.4	21.8	82	.....	.8	5.2	.....	.....	.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	102.3	

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.12	25.7	30.5	23	85.2	NE	0.7	6.8	Ci.	Cu. NE	.....	☿° p.
2	60.52	25.8	30.8	22.5	82.5	NE	.7	6.8	Ci., Ci.-S.	Cu. NE	.....	☿° ☾° p.
3	61.17	25.4	30.5	23.5	85.7	NE quad.	1.3	9.8	Ci.-S.	N. NE	4.8	●° a. p.
4	61.22	25.3	31	22.7	84.2	NE	.7	7	Ci. E	Cu. NE, E	.....	
5	60.71	25.9	31	22.7	81.3	NE	1	6.2	Ci.	Cu. NE, E	2.6	p p.
6	60.44	24.9	28.5	23.7	90.5	NE quad.	1.2	9.7	Ci.-S. NE	N. NE	5.8	●° a. p.
7	61.03	25.1	29.6	23.1	82.2	NE	1.2	6.7	Ci.-S.	N. NNE, NE	.3	☿° d° a. p° p.
8	60.92	24.9	30.4	20.8	83.2	NE	1	7.2	Ci.-S.	Cu., Fr.-N. NE	.....	
9	60.60	25.2	30.7	22.5	85	NE	.5	6	Ci.	Cu., N.-cf. NE	.3	d° p.
10	61.09	25.4	31.8	22.5	84.8	NE	.3	6.2	Ci.	Cu. NE	.....	●° ☊ a.
11	62.08	25.2	30	21.8	86.5	NE quad.	.7	7.5	Ci.-S.	Cu. NE	.....	
12	62.13	25.4	30.4	23.7	87.8	NE quad.	1	9.5	Ci.-S.	N. SE, N	1.5	●° p.
13	62.28	26	31.1	23.5	81	NE	1.3	5	Ci.	Cu. NE, E	.....	
14	62.75	25	30.2	21.5	80	NE	.5	5.5	Ci., Ci.-S.	Cu., Fr.-N. NE	.....	
15	62.51	25	30.3	21.2	82.3	NE	.8	5.3	Ci. NE	Variable NE	.....	
16	62.99	25	31.1	22.3	83.8	NE	.7	4.5	Ci.	Cu. NE	.....	
17	63.22	25.4	30.7	21.7	81.5	NE quad.	1	4.5	Ci.	Fr.-Cu. NE	.....	
18	63.09	24.5	30.1	20.4	83.8	N	.3	4.8	Ci.	Cu. NE	.....	
19	63.52	25.1	30.7	21.4	84	NE quad.	.7	5.7	Ci.-S. NNE	cu., Fr.-N. NE quad.	.....	
20	63.22	24.5	28.9	21.5	85.7	NE	.8	7.2	Ci.-S.	N. ENE, E	2	●° a.
21	63.31	24.6	30.1	21	82.2	NE quad.	.5	2.8	Ci.	Cu. NE	.....	
22	62.87	23.2	29.9	18.3	84.7	NE quad.	.3	2.5	Ci.	Cu. ENE, NE	.....	☊° a.
23	62.38	23.9	30.9	19.2	81.8	N	.3	3.7	A.-Cu. NE	Cu. NE	.....	☊° a.
24	62.70	26	31.7	21.8	75.3	NE quad.	.5	4.3	Ci.-S., A.-Cu.	cu., Fr.-N. ENE, NE	.....	
25	62.62	25.6	31	22.7	80	E	.7	1.7	Ci.	Cu. E	.....	
26	63.01	25.8	31.3	22.5	79.5	NE quad.	.8	2.8	Ci.	Cu. NE	.....	☿° p.
27	63.96	25.4	30.7	21.6	80.2	NE quad.	.7	5	Ci.	Cu. NE	.....	
28	63.53	25.2	30.7	21.3	80.7	NNE	.5	5	Ci.	Cu., Fr.-N. NNE	.....	d° p.
29	62.95	25.5	31	22	82.3	NNE	.8	4	Ci.	Cu. NNE, NE	.....	
30	62.56	24.8	31.2	21.8	83.3	NE	.3	3.5	Ci.	Variable NE	.....	
31	62.34	25.2	31	21.7	81.3	NE quad.	.7	2.5	Ci.	Cu. NE	.....	
Mean	762.19	25.2	30.6	21.9	83	.....	.7	5.5	.....	.....	.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17.3	

Meteorological data for first and second class stations—Continued.

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.72	25.5	32.6	21.1	80.5	NE quad.	0.5	6.5	Ci.-S.	S.-cf. ENE	.....	☾ ☋ p.
2	60.49	24.8	32.6	20.2	81.2	Variable.	.8	3.8	Ci.-S.	Cu. ENE	1.5	☊² a. ☋ ☾ p.
3	61.10	24.6	31.1	21.2	85.7	N	1	7.8	Ci.-S.	S.-Cu. ENE	.3	d° a. ☋ p.
4	60.98	24.8	31.3	20.7	82.7	N	.8	4.7	Ci.-S.	S.-Cu. ENE	2	d° ☿ p.
5	60.42	24.6	30.8	19.8	84.7	NE	.8	4.5	Ci.-S.	S.-Cu. ENE	.....	☊ a. d° ☋° p.
6	60.02	25.4	30.8	22.9	86.3	NE	.8	7.2	Ci.-S.	S.-Cu. ENE, NE	3.3	d a. p. ☋ p.
7	60.74	24.6	30.7	20.4	78.3	NE	.5	2.2	Ci.	Cu. NE	.....	
8	60.63	23.5	28.4	19.7	86.3	NE	.5	6.5	Ci.-S.	S.-Cu. NE	.5	d° p.
9	60.22	24.2	29.7	20.7	88.7	NE	.3	6.3	Ci.-S.	S.-Cu. NE	6.3	d° a. p. ●° p.
10	61.14	24.2	30.1	20.3	87.7	Variable.	.7	3.3	Ci.	Cu. NE	3.5	☊ a. d° ●° p.
11	62.12	24	27.7	20.8	90.5	Variable.	.7	6.5	Ci.-S.	S.-Cu. NE, ENE	2.5	d p.
12	62.04	23.7	26.9	21.4	93.2	S, E	.3	8	Ci.-S.	N. ENE	6.3	d a. p. ●° p.
13	62.27	25.2	31.3	20.7	79.3	N	1.2	3.3	Ci.	S.-Cu. ENE	.....	
14	62.24	24.2	31.6	18.7	80	N	.8	2.2	Ci.-S. N	S.-cf., Cu. NE	.....	
15	62.18	24.8	32.6	19.6	78.5	N	1.2	3.3	Ci.-S.	Cu. NE	.....	
16	62.76	24.4	32.2	18.9	79.2	NE	.7	3.3	Ci.	Cu. NE	.....	☊ a.
17	62.91	24.7	32.6	19.7	76.7	N quad.	1.2	2	Ci.	S.-cf., Cu. NE	.....	☊ a.
18	62.63	24.6	32.8	18.1	75.5	NE	.8	3.3	Ci. EbyS	Cu. NNE, NE	.....	
19	63.16	25.4	32.8	19.8	77.2	NE	.5	3.7	Ci.	S.-Cu., Cu. NE	.....	
20	62.92	23.9	29.3	19.8	80.2	NE	.7	4.5	Ci.-S.	S.-Cu. NE	.....	
21	62.68	24	32.2	18.2	73.2	NE	.8	.3	Ci.-S.	Cu.	.....	☊ a.
22	62.20	24.1	32.4	17.7	76	N	1	1.8	.....	Cu. NE, SE	.....	☊ a.
23	62.03	23.8	27.8	20.8	86.3	Variable.	.3	5.5	Ci.-S., A.-Cu.	S.-Cu. E	1.5	d a.
24	62.68	23.7	29.7	18.9	83.5	Variable.	.8	.7	.....	Cu. E	.....	☊ a.
25	62.52	24.4	32.1	18.5	80.5	N	1	1.7	.....	Cu. E	.....	☊ a. ☋° p.
26	62.82	25.3	32	20.3	78.2	Variable.	.5	3.7	Ci.	Cu. ENE, NE	.....	
27	63.53	24.8	32.4	18.9	78.2	NE	.5	3.3	A.-Cu. SEbyS	Cu. NE	.....	☊ a. ☋° p.
28	62.94	24.8	33.3	19.8	80.3	NE	1.2	4.7	A.-Cu. SE	Cu. NE	2.3	p° ☋ p.
29	62.73	24.3	31.1	19.4	81.8	NE quad.	.7	4.2	Ci.-S.	S.-Cu. NE	.....	☋° d° p.
30	62.37	24.2	29.9	19.7	84.7	Variable.	.8	2.2	.....	Cu. NE	.....	☊ a. ☋ p.
31	62.12	24.4	30.1	19	82	Variable.	.7	3.2	Ci.-S.	S.-Cu. NE	.....	☊ a. ☋ p.
Mean	761.91	24.5	31	19.9	81.8	.....	.7	4	.....	.....	.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30	

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.77 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.20	26.8	31.8	23.3	77.8	NE quad.	0.7	5.2	Ci.-S.	Cu. E	.....	d ●° a.
2	60.79	26.6	32.1	21.6	76.3	NE	1	4.5	Ci., Ci.-S.	Cu. NE	4.5	d ● p.
3	61.45	26.2	30.2	22.6	78.2	NE	2	7.8	Ci.-S.	Cu. ENE	1.5	◯° ● a.
4	61.43	26	29.6	22.7	85	NE	1.7	8.2	Ci.-S.	Cu., N. E, ENE	7.3	d a. ● a. p.
5	60.90	25.8	29	22.5	84.3	NE	2	8.5	Ci.-S.	Fr.-N. E	2.6	◠ a. d ● a. p.
6	60.41	26.1	29	23.4	77.3	NE	2.3	5	Ci.-S.	Cu. ENE	.....	●° p
7	60.88	25.5	30.9	22.4	76.5	NE	2	2.8	Ci.-S.	Cu.-N. NE	.3	● p.
8	60.75	26.2	31.6	21.6	75.2	NE	1.5	5.2	Ci.-S.	Cu. E	.8	d° p.
9	60.60	26.6	32.1	22.4	78.2	NE	1.2	3.3	Ci.	Cu. NE, ENE	.....	≲° p.
10	61	25.8	32	19.9	82	NE quad.	1	2	Variable	Cu. ENE	1.8	
11	62.17	26.3	31.5	21.8	81.2	NE	.8	5.2	Ci.-S.	Cu. E, NE	33	● a.
12	62.24	25.4	28.1	22.4	84.7	NE, ENE	1.8	10	Ci.-S.	Fr.-N. NE	11	● a. p.
13	62.58	25.4	28.6	23	81	NE, ENE	1.8	7.3	Ci.-S.	Cu.-N. ENE	.3	d ● a.
14	62.57	26.2	31.5	22.7	72.8	NE	1.5	2.5	Ci. SE	Cu. NE	.....	≲° p.
15	62.68	26.4	31.5	22.5	75.3	NE	1.3	2.2	Ci.	Cu. ENE	1.3	
16	63.04	26.6	31.7	22	77.3	NE quad.	1.2	3	Ci.	Cu. NE	.....	● a.
17	63.23	26.1	30.6	23	77.2	NE quad.	1.5	2.5	Ci.	Cu. ENE, E	1.3	d ● a.
18	63.02	26.4	32.5	22.5	73.2	ENE	1.7	2.7	Ci.	Cu. ENE	.....	
19	63.46	26.6	32.7	23.1	75.5	NE	1.7	3	Ci.	Cu. ENE	.....	d° p.
20	63.19	25.6	29.8	23.5	78	NE	1.8	4	Ci., Ci.-S.	Cu.-N., N. NE	1.1	● a. d p.
21	63.10	25.9	31.6	21.9	72.5	NE	1.3	.8	Ci.	Cu.	.5	
22	62.54	26	32	22	71.3	NE quad.	1.7	1.3	.....	Fr.-Cu. ENE	.....	
23	62.38	24.7	32.3	17.2	80.5	NE	.8	2.5	A.-Cu.	Cu. NE	.....	
24	62.95	25.3	32.7	19.1	81.5	NE quad.	.5	3.3	Ci.-S.	Cu. ENE	.....	◠ a.
25	62.88	26.6	32.1	21.4	75	NE	1.3	1.5	.....	Cu.	.....	
26	63.18	25.7	30.7	22.6	76.7	NE quad.	1.2	2.7	Ci., Ci-S.	Cu.-N. NE	1	●° a.
27	63.91	26.7	32.2	22.8	72.3	NE quad.	1.8	2.2	Ci.	Cu. NE	.....	≲° p.
28	63.33	26.4	31.5	22.9	76.5	NE quad.	2	2.2	Ci., A.-Cu.	Cu. ENE	.....	≲° p.
29	63.01	26.9	32.5	23	75.3	NE	1.5	2.3	Ci.	Cu. NE	.....	≲° p.
30	62.62	26.7	31.9	22.7	73.5	NE quad.	1.2	2	Ci.	Cu. NE	8.4	d a.
31	62.73	25.4	30.2	21.5	79.2	NE	1	6	Ci.-S.	Cu. NE	1.1	d ● a.
Mean	762.23	26.1	31.2	22.1	77.5	.....	1.4	3.9	.....	.....	.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	77.8	

Meteorological data for first and second class stations—Continued.

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.51	26.5	30.5	24.5	75.8	NE	1.7	6.8	A.-Cu. NE	Cu. NE, E		d ☿ p.
2	61.26	26.5	29.2	24.9	77.5	NE	2.2	5.3	Ci. SW	S.-Cu. NE	0.8	d° ●° a. ☿ p.
3	61.93	26.5	28.4	24.7	75	NE	3.2	8.8	Ci.-S.	Cu. NE	1.8	☿° ☽° p.
4	61.85	25.2	28	23	86.8	NE	1.2	9.2	A.-Cu. E	S.-Cu. NE	6.1	d° ●° a. p.
5	61.49	25.2	26.7	23.4	85	NE	3	7.8	A.-Cu.	S.-Cu., N. NE	1.3	●° a. d° ☿² p.
6	61.21	26.3	28.7	24	74.2	NE	3.8	3.8	Ci.	S.-Cu., Cu. NE	.3	☿² a. p. d² p.
7	61.29	25.8	27.7	24	78.2	NE, E	4	4.8	A.-Cu. E	S.-Cu. NE	.8	●° a. p. ☿° p.
8	60.88	25.1	28.7	21.1	79.3	NE	1.5	8.3	A.-Cu. E	S.-Cu., Cu. NE, E		d² a. d° p.
9	60.65	24.9	29.2	20.9	82.3	NW quad.	1.2	5.2	A.-Cu. S	Cu. S	.3	Ω² a.
10	61.50	24.3	27	21.5	88.5	NE	1.8	9.3	A.-Cu. NE	S.-Cu. NE	6.3	d ●° a. d° p.
11	62.30	25.6	27.4	24.1	84.7	N	2.2	7.7	A.-Cu. NE	S.-Cu. NE	2.5	☿² d° a. ● p.
12	62.40	26	28.7	24.4	82.5	NE, E	1.5	8.3	A.-Cu. E	S.-Cu. NE	1.3	d° ●° a. d² a. p.
13	62.58	25.9	28.5	22.7	78.7	NE	1	6.3	A.-Cu. E	Cu. NE, E		
14	63.08	24.6	29	20.2	80.2	N	1.8	1.5	A.-Cu. E	Cu.		Ω² ≡° a.
15	62.92	26	29	24.5	75.5	NE	2.3	4.5	A.-Cu. ENE	Cu. NE		
16	63.43	26.2	29.5	23.9	79.2	NE, N	2.2	6.8	A.-Cu. ENE, E	S.-Cu. NE		
17	63.57	26.4	29.6	24.2	76.8	NE	2	4.8	Ci.	Cu. NE		
18	63.34	26.2	30	24	76	NE	2.2	2.3	Ci. SE	Cu. NE, E		
19	64.02	26	29	22.8	80.7	NE	2.7	8	A.-Cu. ENE, E	S.-Cu. NE	5.8	d° a. ●° a. p.
20	63.54	26.4	29.2	23.9	72.3	NE	2.8	5.2	Ci. S, SW	S.-Cu., Cu. NE		
21	63.18	24.8	28.4	19.8	76.8	NE quad.	1.5	3.5	Ci. SSE, S	Cu. E		
22	62.85	25.9	29.9	21.2	71.2	NE	2.2	2.7	Ci.	Cu. ENE, E		
23	62.67	24.9	27.9	19.4	74.2	N quad.	1.5	1.2	Ci.	Cu. NE, E		
24	63.07	25.6	29.4	24	75.3	NE	1.8	3.2	A.-Cu. E	Cu. NE		☿² p.
25	62.78	26.1	30.2	22.3	76.2	NE quad.	1.3	4.7	A.-Cu. E	Cu. E		☿° p.
26	63.43	26	29.7	21.5	74.3	NE	1.7	4	A.-Cu. NE	Cu. NE, E	4.8	☿° p.
27	64.60	24.2	26.2	21	82.2	NW	3	8.8	A.-Cu. NE	S.-Cu. NE, N	3.3	●° d² a. ● p.
28	63.87	25.5	27.8	22.8	80.8	NE	2.2	7	Ci.	S.-Cu. NE	4.1	●° a. ∞° d° p.
29	63.47	25.9	28.5	24	74.5	NE	2.8	2.5	Ci.	Cu. NE		
30	63.19	23.9	25.7	22	85.3	N	1.7	9	A.-Cu. NE	N. NE	47.8	●° a. d a. p.
31	62.86	24.4	27	22.1	85.7	N	2	9.2	Ci.-Cu., A.-Cu. E	S.-Cu. NE, N	2	● d° a. ☽° ☿° p.
Mean	762.57	25.6	28.5	22.8	78.9		2.1	5.8				
Total											89.3	

PARACALE.

[ϕ=14° 17′ N; λ=122° 47′ E; barometer above sea, 5.3 meters; gravity correction not applied, —1.73 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.76	25.2	30	21.7	84.5	E	0.8	7	Ci.-S., Ci.	Cu. E quad.	5.1	● Ω p.
2	61.51	25.1	30	22	84.2	NE, ENE	1	6.5	Ci.	Cu. NE	.5	Ω² ●° a. ☿ p.
3	62.12	26.2	29.3	25.1	75.8	ENE	2.2	10	Ci.-S.	Cu. ENE	6.1	⊕ a. p. ☿ p.
4	62.06	25.2	28.1	23.4	87.7	E	1.7	8.5	Ci.-S., Ci.	Cu., S.-Cu. E	52.9	● a. ●2 p.
5	61.70	25.4	27.2	23.1	83	ENE	3	9.5	Ci.-S.	Cu., S.-Cu. ENE	3.3	● a. p.
6	61.57	26.1	29.5	24.4	77.3	ENE	2.2	3.3	Ci.	Cu. NE	.8	● p.
7	61.60	25.8	28.9	24.1	76.7	ENE	2.7	5.2	Ci.	Cu. ENE	2.6	●° a. p.
8	61.28	24.4	29	21.8	84.7	E quad.	1.3	8.7	Ci.-S.	Cu. ENE	5.6	● a. d p.
9	61	25.3	30.8	22	83.3	E, ENE	1	2.8	Ci.	Cu. E		Ω² p.
10	61.87	23.6	28.3	21	95	NNE	.2	7.3	Ci.-S.	Cu. E	17.5	Ω² a. ● a. p. d p.
11	62.64	25.3	30.1	22	88.5	NE	.7	6.2	Ci.	Cu. NE	6.7	Ω² ● a. ●° ⊕ p.
12	62.76	25.2	28.5	23.5	87.3	E quad.	2.2	9	Ci.-S., Ci.	Cu. ENE	5.4	● d a. ●° p.
13	63.03	25.6	28.5	21.7	78.3	E quad.	1.5	5.5	Ci.-S., Ci.	Cu. E		d° a.
14	63.20	24.2	29.7	19.9	84.8	ENE, NE	.7	2.5	Ci.	Cu. ENE		Ω a. p.
15	63.36	24.2	29.6	22.5	87.5	ENE	1	6.5	Ci., Ci.-S.	Cu. E	3	Ω d a. p. ●° p.
16	63.61	24	29.5	21	88.7	ENE	.5	5.7	Ci., Ci.-S.	Cu. E	.5	●° a. Ω p.
17	63.94	25.2	29.8	21.5	82.8	ENE, E	.8	3.2	Ci.	Cu. E	.5	Ω a. p. p² a. d° p.
18	63.48	24.9	30.3	20	83.8	ENE	.5	4.2	Ci.	Cu. E	2.3	Ω² a. ● p p.
19	64.15	25.3	30	21.6	83.2	ENE	1.5	4.7	Ci.	Cu. NE	2.3	● a. p.
20	63.76	25.5	29.8	23.4	74.5	E	1.7	6.2	Ci.	Cu. ENE		d° a.
21	63.49	24.9	29.3	20.8	75.3	ESE	.8	3.3	Ci.	Cu. E		Ω° a. p.
22	63.16	24.6	29.1	19.8	76.2	E quad.	.8	5.5	Ci.	Cu. ENE	.3	Ω a p° p.
23	62.69	23.9	29.8	18.8	82.5	E	.7	2.8	Ci.	Cu. E		p a.
24	63.32	23.4	28.3	19.9	91.3	E	.5	7.2	Ci.-S.	Cu. E	6.1	Ω² a. ● d a. p.
25	63.15	25	29.6	20.6	82.3	E	1	3.3	Ci.	Cu. E	5.8	≡ a.
26	63.77	24.6	29.4	20.7	83	NE	.7	8	Ci.-S.	Cu. E, NE	50.3	● a. p. d p.
27	64.84	25	29.8	21.1	85	NE	.8	8.5	Ci.-S., Ci.	Cu. ENE	21.6	●2 a. ●° p.
28	64.09	25.8	29.8	24	77.8	ENE	1.5	4.7	Ci.	Cu. ENE	.8	●° a.
29	63.68	25.6	29.3	22.1	77.5	E quad.	1.5	3.8	Ci.	Cu. ENE	3.3	●° p.
30	63.02	24.4	28.5	21	85.8	E	.7	8.8	Ci.-S.	Cu. ENE	10.5	●° a. ●° ☿° p.
31	62.86	23.9	28.6	21.9	90	ESE, NE	.3	9.7	Ci.-S.	S.-Cu., Cu. E	11.9	● d a. ●° a. p.
Mean	762.82	24.9	29.3	21.8	83.2		1.2	6.1				
Total											225.7	

Meteorological data for first and second class stations—Continued.

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	*P.ct.*		*0–12*	*0–10*			*mm.*	
1	760.75	25.1	32.7	19.4	74.3	NE	1.5	5.3	Ci. SE	Cu. E	-------	☊ a.
2	61.01	25.5	33.5	21.4	74.8	NE quad.	2.2	5.5	Ci. SE	Cu. E	-------	☊ a. ☋ p.
3	61.87	24.5	31.2	20	77.7	NE	2.3	6.8	Ci. SE	Cu. ENE	-------	☊ ☾° a. ☾ p.
4	62.02	23.6	28	21.5	90.3	NE	1.2	8.2	Ci.-S. SE	N. E	3.8	☾ a. ● a. p. ☿² p.
5	61.54	24.2	30.8	19.5	79.3	NE, ENE	1.8	4.8	Ci.	Cu. E	-------	d° a. ☊ p.
6	61.29	24.3	31.5	18.9	74.2	NE, ENE	2.2	4	A.-Cu. NE	Cu. ENE	-------	☊ a. p. ☰° a. ☄° p.
7	61.18	23.7	31	17.5	74.2	NE	2	2.5	A.-Cu. NE	Fr.-Cu. E	-------	☊² ☰° a. ☊ p.
8	61.28	23.4	29.2	19.5	80.8	NE	1.8	5.8	A.-Cu. NE	Cu. E	-------	☊ d° a. ☋° p.
9	60.70	24.8	33.2	17.5	74.3	NE	1.8	4.8	A.-Cu., Ci.	Cu. E	-------	☊² ☲° a.
10	61.48	25.9	32.2	21.9	76.2	NE	1.8	5.8	Ci. SE	Cu. E	-------	
11	62.27	26	33	20.6	76.3	NE	1.8	6	Ci. SE	Cu. NE	-------	☊ ☰° a.
12	62.55	25.7	31.2	22	78.7	NE	1.7	7.5	Ci.-S.	N., Cu. E quad.	-------	
13	62.60	25.7	30.7	22	78.5	E, N	2.3	6.7	A.-Cu. NE	Cu. E	1.8	d° ● a.
14	62.69	25.9	32	20.3	74	SE, NE	1.8	4.8	A.-Cu. E quad.	Cu. ESE, N	-------	
15	62.70	25.1	32.2	19	74	NE	2.2	3	A.-Cu. NE	Cu. ENE	-------	☊ a. p.
16	63.36	25.1	32.9	17.6	70.3	NE	1.8	2.5	Ci.	Cu. E quad.	-------	☊² ☰° a.
17	63.33	25.5	32.8	19.1	70.8	NE	2	3.5	Ci.	Cu. E	-------	☊ a.
18	63.09	25.1	33	19	73	NE	2	3.8	A.-Cu.	Cu. E	-------	☊ a.
19	63.74	25.5	33.2	19.5	69.8	NE	2.3	4.7	Ci. SE	Cu. E	-------	☊ a.
20	63.53	24.2	32.6	18.1	71	NE	2	4.7	Ci. SE	Cu. E	-------	☊ a.
21	63.27	23.9	32	18	75.8	NE	2.5	4.7	Ci.	Cu. E quad.	-------	☊ ☰° ∞ a.
22	62.86	24.3	31.2	18.9	69.3	NE	2.5	3.5	A.-Cu. NE	Cu. E	-------	☊ a.
23	62.65	23.5	31.3	16.4	70.2	NE, N	1.8	2.3	Ci.	Cu. E	-------	☊ ☰° a.
24	62.90	24.4	33.4	15.6	67.7	N, NE	1.8	2.7	A.-Cu.	Cu. E	-------	☊ ☰° ∞ a.
25	63.02	23.7	30.4	16.8	74.7	NE quad.	2	5.7	A.-Cu. NE	N., Cu. E	-------	☊² ☰° a. ◠ p.
26	63.42	24.9	32.2	19	68.5	NE quad.	1.7	3.3	A.-Cu., Ci.	Cu. E	-------	☊ a. p.
27	64.65	23.8	32	16.5	71.2	NE, N	1.7	5.5	A.-Cu. ENE	Cu. E	-------	☊² ☰° a.
28	63.98	25.4	32.7	20	66.2	NE, E	1.5	6.5	Ci.-S. SE	Cu. NE	-------	
29	63.38	25.3	33.2	18.7	67.2	NE	1.8	4.5	A.-Cu.	Cu. E	-------	☊² a.
30	63.11	25.3	31.7	20	68.7	NE	2	7.3	A.-Cu. NE, E	N. ENE	-------	☊ a. d° ☿° p.
31	62.64	26	32.2	20.5	65.8	NE	1.7	6	A.-Cu. E	Cu. NE	-------	☊ a. ☋° p.
Mean	762.54	24.8	31.9	19.2	73.5	.....	1.9	4.9	.....	.....	.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.6	

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

	mm.	°C.	°C.	°C.	*P.ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.30	25.2	31.9	19.7	86.3	Variable	1.5	2.2	Ci.	Cu., S.-Cu.	-------	☊ a. ☿ p.
2	60.65	25.5	32.2	21.2	83.8	NW	.8	3.8	Ci., Ci.-S.	S.-Cu. E	-------	☊ a.
3	61.26	24.6	31.3	20.8	81.2	SE	1.2	7.3	Ci.	S.-Cu. E	-------	◠ a. ☋ ☿ p.
4	61.33	26.1	32.9	22.3	78.8	SE	.7	6.2	A.-Cu.	S.-Cu.	-------	☿ a.
5	60.82	26	34.1	21.3	78.8	SSE	.7	.7	Ci.	Cu.	-------	
6	60.71	25	33.3	19.4	81.5	SE	1	.7	Ci.	Cu., S.-Cu.	-------	☊ a.
7	60.38	25.5	34	19.5	77	S quad.	1.5	1.3	Ci.-S.	Fr.-Cu., S.-Cu.	-------	
8	60.36	26	33.5	21.1	79	SE quad.	1.7	3.8	A.-Cu.	S.-Cu. SE	-------	
9	60.45	25.6	32.7	19.5	82.2	Variable	1.3	3.3	Ci.	Cu., S.-Cu.	-------	
10	61.10	25.6	29.4	22.5	87.7	NW	1.3	7.3	A.-Cu.	Cu., S.-Cu.	8.1	p p.
11	61.72	26	32.8	22.3	88.8	Variable	1	5.3	A.-Cu.	Cu., S.-Cu.	-------	d° a.
12	62.03	26	30.9	21.3	87.5	NW	.7	5	A.-Cu.	Cu., S.-Cu.	-------	☊² a.
13	61.80	26.8	34.4	22.1	83.7	S quad.	1.2	6.5	A.-Cu.	S.-Cu.	-------	
14	62.17	26.4	33.3	22	84.5	SE, NW	1.7	1.5	.....	Cu., S.-Cu.	-------	
15	62.06	26.3	33.2	20.9	83.3	SE, NW	1.3	4	.....	Cu., S.-Cu.	-------	
16	62.93	26.1	31.9	21	78.3	SE, NW	1.2	1.7	Ci.	Cu., S.-Cu.	-------	
17	62.82	25.9	32.8	20.7	78.2	N	1.5	1.3	.....	Cu.	-------	
18	62.62	26.1	33	20.6	79.3	NW	1.2	1.5	.....	Cu., S.-Cu.	-------	
19	63.08	25.9	33.7	20.8	81.2	S quad.	1.2	3.7	.....	Cu., S.-Cu.	-------	
20	62.80	26	33.5	20.4	75.3	S, NW	1.5	3.8	Ci.-S.	Cu., S.-Cu.	-------	
21	62.74	24.9	31.4	19	81.2	SE quad.	.8	1.8	Ci.	Cu., S.-Cu.	-------	
22	62.19	25.4	33.5	19.1	78.7	SE	1.3	4.2	.....	Cu., S.-Cu.	-------	d° p.
23	62.11	24.5	32.1	18.8	78.7	SE, NW	1.2	.8	A.-Cu.	Cu., S.-Cu.	-------	
24	62.57	25	33.6	17.8	77.3	SE, NW	1.2	.5	.....	S.-Cu.	-------	
25	62.46	24.2	30.7	18.1	82.8	Variable	1	1.8	.....	Cu., S.-Cu.	-------	☊ ☰ a.
26	62.84	25.4	33.8	20.6	83.2	Variable	1.2	1.7	.....	Cu., S.-Cu.	-------	
27	64.11	24.4	31.6	17.4	84.3	SE, NW	1.2	.8	.....	Cu.	-------	☊ ☰ a.
28	63.46	24.9	30.7	19.2	86	Variable	1.2	2.8	.....	Cu., S.-Cu.	-------	☊ a. d° p.
29	62.87	25.4	30.6	20.4	86.3	NW	1.3	2.8	.....	Cu., S.-Cu.	-------	
30	62.56	24.8	30.2	20.5	89.2	NW	.8	3.3	A.-Cu.	Cu., S.-Cu.	-------	☊² a. ☿° p.
31	62.32	25.6	31	21	87.2	NW quad.	1.2	4.3	A.-Cu.	S.-Cu.	-------	
Mean	761.99	25.5	32.4	20.4	82.3	.....	1.2	3.1	.....	.....	.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8.1	

Meteorological data for first and second class stations—Continued.

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 9.7 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.32	25.9	30.7	20.7	84.5	NNE	3	6.3	Ci.-S.	S.-Cu.	-------	☊ ≡ a.
2	60.64	26.8	30.5	23.9	86.2	NNE	3.7	9.5	Ci.-S.	Cu. NE	-------	
3	61.11	26	31	20.7	82.3	SE	2.3	10	Ci.-S.	S.-Cu.	-------	☊ ≡° a. ●° p.
4	61.17	26.1	31.4	22	85.7	NW	1.5	6.5	Ci.-S.	S.-Cu.	-------	☊° a.
5	60.60	26.2	32.6	21.4	80	SE quad.	2.3	2.5	Ci.-S.	S.-Cu., Cu.	-------	☊ ≡ a. ☋° p.
6	60.60	26.1	32	22	83.7	SE, NNE	2.8	2.7	Ci.	S.-Cu.	-------	☊ a.
7	60.23	26.1	31.5	22	75.8	SE quad.	2.2	4.3	Ci.	S.-Cu.	-------	☊ a.
8	60.15	25.8	31.5	21.9	78.5	SE quad.	3	4.5	Ci.	S.-Cu.	-------	☊ a. d° p.
9	60.46	25.7	30.6	21.1	83.5	Variable	3.7	7	Ci.	S.-Cu.	-------	☊ ≡° a.
10	61.13	26.4	29.9	24.4	82.3	NNE	3.5	8.2	Ci.	S.-Cu. NNE	-------	
11	61.82	26.2	31	22.5	88	N quad.	2.5	9	Ci.-S.	Fr.-Cu. N, NNE	-------	☊° a.
12	62	26.2	31.7	20.9	84.7	Variable	2.8	5	Ci.-S.	S.-Cu.	-------	☊ ≡ a.
13	61.79	26.8	32.5	23.9	83.3	N quad.	2.8	6.7	Ci.-S.	S.-Cu.	-------	☊° a.
14	62.23	26.8	31.9	23.6	79.2	NNE	3.7	6.3	Ci.	Fr.-Cu. NNE	-------	☊° a.
15	62.14	27	31.4	24.1	81.5	N quad.	2.5	6.8	Ci.	S.-Cu., Cu.	-------	
16	62.93	26.4	31.9	22.3	79.2	SSE, NNW	3.2	1.3	Ci., Ci.-S.	Cu.	-------	☊ a.
17	62.77	26.9	32.2	24	79.3	N quad.	2.8	3.3	Ci.	S.-Cu.	-------	
18	62.48	26.4	32	21.3	79.3	SE, NW	2.7	1.2	Ci.	Cu.	-------	☊ a.
19	63.09	26	31.1	22	82.7	Variable	2.5	5.5	Ci.-S.	Cu.	2.3	●° a.
20	62.76	25.8	32.4	22	72	SE	3.3	8	Ci.-S.	S.-Cu.	-------	☊ a.
21	62.61	25.7	31.5	21.4	77	E quad.	2.7	5.8	Ci.-S.	S.-Cu., Cu.	-------	☊° a.
22	62.13	25.3	32.2	20.7	78	SE	2.7	5	Ci.	S.-Cu. SE	-------	☊ ≡ a.
23	62.03	24.5	31.1	19.7	73.8	S, N	2.5	5.2	Ci.	S.-Cu.	-------	☊ a.
24	62.46	24.6	31.1	19.1	76.7	N quad.	3	2.3	Ci.	S.-Cu., Cu.	-------	☊² a.
25	62.46	24.9	30.4	19.2	77.7	SSE, NNE	2.8	3.7	Ci.	S.-Cu.	-------	☊² ≡° a.
26	62.90	27	31.4	23.4	72.5	NE quad.	3.5	2.5	Ci.	Cu.	-------	
27	64.10	25.4	31	20	80.2	NE quad.	2.5	4.3	Ci.	Fr.-Cu. NNE	-------	☊ ≡ a.
28	63.60	26.3	30.2	24.8	73.8	NNE, N	4.2	6.7	Ci.	S.-Cu. NNE	-------	
29	63.06	25.7	29.5	22	77.7	NNE	4	6.7	Ci.	Cu., Fr.-Cu. NE, N	-------	☊° a. ↙° p.
30	62.64	25.8	28.5	24	77.7	NNE	4.5	8.2	Ci.	S.-Cu. NE	-------	☋° p.
31	62.30	26.1	29.5	24.3	77.2	N	3.7	7	Ci., A.-Cu.	S.-Cu.	-------	☊° a.
Mean	761.96	26	31.2	22.1	79.8		3	5.5				
Total											2.3	

BAGUIO.[a]

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1,512.5 meters; gravity correction not applied, —1.65 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	637.36	16.6	22.3	13.9	82.3	E quad.	1.7	4.3	Ci.	Cu.	-------	≡° a. p.
2	37.78	17	22.4	13.5	86.3	Variable	1.3	6.3	Ci.	S.-cf. E	-------	☊ a.
3	38.10	16.2	20.9	13.1	86.7	E quad.	1.5	8.3	Ci.	S.-Cu. E	-------	☊² ≡° a. d° p.
4	38.15	17.3	23.4	13.5	77	E quad.	2.7	6.7	Ci.	S.-Cu. E	-------	☊ ≡ a.
5	38.07	17.3	23.6	14.1	79	E	1.3	2.7	Ci.	Cu.	-------	☊ a. ≡° p.
6	37.78	17.3	23.8	13.3	68.7	E	1.5	2.9	Ci.	Cu.	-------	☊ a. ≡ p.
7	37.37	16.8	23.4	13.1	70.3	E, SE	2.2	1.9	Ci.	S.-cf. E	-------	
8	37.17	16.4	23.4	13.1	81.7	SE	1.3	4.7	Ci.	S.-Cu. ESE	-------	
9	37.28	16.4	22.3	13.5	84.8	WSW	1.5	6.3	Ci.-Cu.	S.-Cu. W	-------	☊ a. ≡² p.
10	37.90	17	21	14	87.8	WSW	.8	8.4	A.-Cu.	S.-Cu. Variable	-------	≡° p.
11	38.75	17.8	23.8	13.9	84.7	E quad.	1.3	8.1	A.-Cu. NW	S.-cf. W	-------	☊ a. ≡° p.
12	39.06	17.4	22.2	15	84.8	SE quad.	1.2	7.4	Ci.	Cu.	-------	≡ d° p.
13	39	16.8	25	14.5	88	E	.8	7.1	A.-Cu., Ci.	S.-Cu. NE	0.8	d° a. p ≡° ⊤° ●° p.
14	39.23	17	22.8	14.1	88.3	W quad.	1.2	5	Ci.	Cu.	-------	☊² a. ≡ a. p.
15	39.09	16.7	22	13.5	90.8	E, WSW	1.2	5.6		Cu.	-------	☊ a. ≡° p.
16	39.81	17.6	23.4	13.4	85.3	E, WSW	1.2	3.6	Ci.	S.-Cu.	-------	☊ a. ≡° a. p.
17	39.65	17.5	23	14.1	84.3	WSW, SE	1.2	4	Ci.	Cu.	-------	☊² a. p p. ≡° a. p.
18	39.43	17.3	23.2	13.4	84	W quad.	1.3	4.7	Ci.	Cu.	-------	☊ a. ≡° p.
19	39.85	17.1	22.9	14.4	85.5	E	1.3	8	Ci.	S., S.-Cu. N	1.3	p p.
20	39.34	16.2	22.4	12.9	82	SE quad.	1.2	6.4	Ci.	S.-Cu. S by W	-------	☊ a.
21	39.12	15.3	22.2	12.5	85.2	E, WSW	1.2	6	Ci.	S.-Cu. NE	-------	☊ a. ≡° p.
22	38.52	15.2	21.9	11.8	81.8	SE quad.	1.5	3.6		S.-Cu.	-------	☊ a.
23	38.32	15.4	21.8	12	73	E, WSW	1.5	3	Ci.	S.-Cu.	-------	☊ a.
24	38.86	15.8	22.3	10.6	64	SE	1.5	.3		Cu.	-------	
25	38.87	16	22.8	12	72.8	SE quad.	1.5	2.7	Ci.	Cu.	-------	≡° ∞ p.
26	39.34	15.4	21.8	11.6	81.8	SW quad.	.7	5		S.-cf. S	-------	☊ a. ≡° a. p.
27	40.30	15.3	22.1	11.3	81.2	WSW	1.2	4.6	Ci.	S.-Cu.	-------	☊² a. ≡° a. p.
28	39.84	15	21.3	12.8	82.8	W	1.3	6.1		S.-Cu. NE, E	-------	∞ a. d° p.
29	39.31	16	21.1	12.5	81.3	E, WSW	1.5	6	A.-Cu.	S.-Cu.	-------	☊° a. d p.
30	38.96	15.4	20.8	12.7	87	NE, WSW	1.2	7.3		S.-Cu. ENE	-------	☊ a. ≡ p.
31	38.94	16.2	22.3	12.6	83.7	WSW	.8	7.1	A.-Cu.	S.-Cu. E	.5	☊ a. ●° p.
Mean	638.73	16.5	22.5	13.1	81.8		1.3	5.3				
Total											2.6	

[a] The barometric readings of this station are not reduced to sea level.

Meteorological data for first and second class stations—Continued.

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 14.7 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.		Lower.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	760.72	25.7	30.6	21.1	87.3	NE	1	1	A.-Cu.		Cu.			☊ a.
2	60.64	25	30.4	20	90.8	NW quad.	1.2	1.2	Ci.		Cu.			☊ ≡° a.
3	61.21	26.2	33.1	21.8	82.5	NE quad.	1.2	6.8	A.-Cu.	SE	S.-Cu.	ESE		☊ ≡° a.
4	61.24	26.7	33.7	22	82.7	SW quad.	1.2	6.8	A.-Cu.	SE	Cu.	ESE		
5	60.85	26	30.6	21.7	91.3	SW quad.	.5	1.5			Fr.-Cu.	E		☊ ≡° a.
6	60.75	25.7	30.7	20.8	87.8	Variable	.8	3	A.-Cu.		Cu.	NE		☊° a.
7	60.41	25.6	31.7	21	82.2	W quad.	.7	1.5	Ci.-S.		Cu.			☔ p.
8	60.39	25.7	30.7	20.8	84.2	W quad.	.3	5.3	A.-Cu.	SSE	S.-Cu.			☊ ≡° a.
9	60.82	24.6	30	20.9	89.2	Variable	1.5	9.3	A.-Cu.	WSW	S.-Cu.	SW		☊ a. d° p.
10	61.38	24.5	30.4	20	90.3	N quad.	.5	7.7	A.-Cu.	W	S.-Cu.			☊ a.
11	62	26	30.5	22.1	88.5	NW quad.	.5	3.8	A.-Cu.	W	S.-Cu.			☊ a.
12	62.28	25.6	33.1	21.3	89.5	Variable	.7	.8	Ci., Ci.-Cu.		Cu.	NW		☊ ≡° a.
13	62.12	25.7	31.8	21.6	89.8	N quad.	.7	.8	Ci.-S.		Cu.	NW		☊° a.
14	62.83	25.7	30.3	22	91.3	Variable	1	2.8	A.-Cu.		Cu.	W		☊° a.
15	62.29	25.4	31.2	20.6	92	SSW	.7	1.5	Ci.-S.		Cu.	SSW		☊ ≡° a.
16	63.19	25.7	30	22.2	94.3	NW quad.	1.3	4.2			Cu.-N.	S, SW		☊ ≡° a.
17	62.97	25.5	30.2	20.9	92.2	W quad.	.3	3.7	Ci.		Cu.	W		☊ ≡° a.
18	62.85	26	31.8	22.2	90.7	NE quad.	.8	3.2	Ci.		Cu.	NW		☊° a.
19	63.28	25.4	31.8	20	82.2	Variable	.5	.5	Ci.		Cu.			☊° a.
20	63.04	25.4	31.3	21.3	84.3	ESE, WNW	.8	3.8	Ci.		Cu.	WNW		
21	62.90	25	30.5	21.2	87.8	Variable	.8	1.7			Cu.			☊° a.
22	62.51	25.1	29.5	20.9	86	SE quad.	.7	1.7	A.-Cu.		Cu.	ESE		
23	62.35	24.6	30.2	20	88.5	Variable	.5	1			S.-Cu.	NE		☊ a.
24	62.82	24.6	30.5	19.8	84	NW	.8	1			Cu.			
25	62.75	24.6	31.8	19.9	84.2	NE quad.	1.2	2.5	A.-Cu.	SSW	Cu.			
26	63.04	24.8	30.5	19.9	85.7	N quad.	.8	3	A.-Cu.	ESE	S.-Cu.	NW		
27	64.26	25	30.7	20.7	83.5	NNE	1.3	3.8	A.-Cu.	E	Cu.	NE		☊° a.
28	63.97	23.9	29.2	19.9	85.5	NNE	2.8	7.7	A.-Cu.	ENE	S.-Cu.	NE		☊° a. ↙° d° ◠° p.
29	63.40	24	28.6	21	86.5	NNE	3	8.2	A.-Cu.	E	Cu.	NE		↙° p.
30	63.21	23.6	27.7	20.4	83.5	NNE	2.3	8.7	A.-Cu.	SSE	S.-Cu.	SSW		
31	62.68	23.7	29.5	19.6	89	N quad.	1.3	5.7	A.-Cu.	ESE	S.-Cu.	SW		≡° a.
Mean	762.23	25.2	30.7	20.9	87.3		1	3.7						
Total														

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	760.92	25.4	33	21	82.5	SW	0.3	3.2	Ci.-S.		Cu.	SE, SW		☊² a.
2	61.90	24.4	31.3	21	90.2	NW	1.3	5.5	Ci.		Cu.-N., Cu.	N	5.8	☊² a. p p.
3	63.44	22.8	27.8	20.6	91.2	NW	3.5	8.3			N., Cu.-N.	N, NW		d p a.
4	63.90	23.5	30.7	20.5	90.7	NW	1	8.2	Ci.-S.		Cu.-N.	NW, N		◠° p.
5	62.96	24	31.2	20	89.7	SW	.2	6			N.	NE		d° a.
6	62.38	23.6	31.9	18.5	80	NW	.5	4.2			Fr.-Cu.	E		☊² a.
7	62.84	23.3	28.9	20.7	87.7	NW, NNW	.7	8.5			Cu.-N.	E	8.9	☊² a. p p.
8	62.24	22.7	29.7	19.5	91.5	N quad.	.5	7.7			Cu.-N.	S		
9	61.25	23.2	31.5	19.5	85.5	SW, NW	2.2	6.3	A.-Cu.	SSW	N., Cu.	N, S	8.1	↙° ● p.
10	62.89	22.2	27.4	19.7	92	NW	.5	9			Cu.-N.	N		d° a.
11	63.60	23.2	28.8	20.2	90	N	1	7.3			S.-Cu.	SW, N		☊² a.
12	63.99	23.8	30.3	20	89	NW	.3	7.7			S.-Cu.	NE		☊² ≡² a.
13	63.17	24.6	32	20.6	86.7	S, N	.3	5.5			Cu.	NNW, S		☊² a.
14	63.20	25	32.7	20	82.8	N quad.	.7	2.3	A.-Cu.		Cu.	SE, N		☊² a.
15	63.17	24.3	31.6	20.1	84.7	SE	.7	4.7			S.-Cu.	SE		☊² ≡ a.
16	63.56	24.9	32.5	20	85.2	NW	1	2.3			Cu., Fr.-Cu.	S		☊² ≡ a.
17	64.05	24.2	29.7	20.4	87	NW	.5	5.7			S.-Cu.	W, S		☊ a.
18	63.72	24.3	32	18.7	82	Variable	.5	3.2			Cu.	SE		☊² a.
19	64.67	23.7	30.8	19	80.5	N quad.	1.3	1.8			Cu.	NE		☊² ≡° a.
20	64.25	22.9	31.5	17.8	85	SW, N	.3	3.2	Ci.		Cu.	S		☊² a.
21	63.40	23.5	31.8	17.5	79.5	SW	.7	3.2			Fr.-Cu.	S		☊² a.
22	63.09	23.9	32.4	18.5	75.8	S quad.	.7	3.5			Cu.	SE		☊² a.
23	62.93	22.6	31.8	15.8	80.3	SW, S	.5	.3			S			☊² ≡² a.
24	63.24	22.8	31.9	16	80.2	S	.3	.7			S.-Cu.			☊² ≡² a.
25	63.43	23.6	32.5	16	85.8	SE, NW	.3	2.7	Ci.		Cu.			☊ a.
26	63.99	22.8	29.8	18.2	84.8	N	.2	4			Cu.	N		☊² a.
27	65.52	22.8?	29.3	18	85.2?	NW	.8	3	Ci.		S.-Cu.	SE		☊² ≡² a.
28	65.49	21.4	26.7	19.5	92.7	NW	2	9.2			Cu.-N.	N	2.5	d p a. ◠ p.
29	65.45	21.3	26.8	19.4	90.2	NW	2.2	7.2	Ci.-S.	N	Cu.	NE		☊° a.
30	65.42	21.1	25	19	87.3	NW	3.8	8.2	Ci.-S.		S.-Cu.	N, NE		d° p.
31	64.70	22	28	19	86.8	NW	2.7	8.7	Ci.-S.		Cu.-N.	N	3.3	d² p.
Mean	763.51	23.3	30.4	19.2	85.9		1	5.2						
Total													28.6	

Meteorological data for first and second class stations—Continued.

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	*P. et.*		*0–12.*	*0–10.*			*mm.*	
1	760.85	24.3	30	20.6	84	E quad.	1	0.2		Cu.-N. S		☊ a.
2	62.10	23.4	28.5	21.7	91.8	NE	2.7	10	A.-Cu. SE	Cu.-N. NE	17.7	●° a. p.
3	64.11	21.8	24	20.7	91.7	NE	4.5	10		Cu.-N. ENE	9.2	●° a. p.
4	64.15	22.6	25	20.6	85.5	E	2.8	9.7	A.-Cu. SE	S.-Cu. E		●° a.
5	62.64	24	29.3	20.7	80.8	E	1	1.7	A.-Cu. SE	S.-Cu.		≡° a.
6	62.34	23.4	27.5	19.4	81	E	1.5	3.7	A.-Cu. S	S.-Cu. ENE		☊ ≡° a.
7	62.93	22.4	26.4	20.5	87.5	NE quad.	2.5	6.3		Cu.-N. E	6.8	◠ a. ●° p.
8	62.16	21.7	24.6	20.1	87.7	E	1.8	8.3		S.-Cu. E		
9	61	21.9	28.6	19.6	88.2	Variable.	2.3	5		N. NW	3.1	☊ ≡° a. ● p.
10	62.84	21.4	23.8	19.6	90.3	NE quad.	1.3	10		N., S.-Cu. SE, E	4	●° a. p.
11	63.82	22.5	25.4	20.6	88.7	NE	1.7	9.7		S.-Cu. ENE		● a.
12	63.87	22.8	25.5	21.1	85.2	E	1.8	8.7		S.-Cu. E		
13	63.04	23.3	28.4	20.1	83.7	E	1	3.2		S.-Cu. E		≡° a.
14	63.13	24.3	28.5	20.9	82.8	E, NE	1.2	3.5		Cu.-N. S, N	1.3	☊ ≡° a.
15	63.24	24.2	27.5	21.1	82.2	NE	1	3.7		Cu.-N.		●° a.
16	63.48	24.4	28.5	21.1	82.8	Variable.	1.3	.5		S.-Cu.		☊ a.
17	64.15	24.8	28.7	22.6	77.2	NE	1.7	2.7	A.-Cu. S	S.-Cu.		
18	63.63	24.3	28.7	21.1	83	NE	.8	4.2		S.-Cu. NE	1.3	
19	64.78	23.4	28.3	20.1	80.3	NE	.8	2		Cu.-N. NE		● ◠ a.
20	64.20	22.2	26.1	18.1	83.3	E	.8	1.7	Ci. SW	Cu.-N. E		☊ a.
21	63.36	23.2	28.8	18.6	81.7	E, NE	a1.2	.8		S.-Cu.		☊ a.
22	62.83	23.2	29.5	19.8	81.3	SE, E	1	1.5	A.-Cu.	Cu.-N. SE		
23	62.56	23.3	29	20	80.7	E, SE	1.3	0				
24	63.04	23.2	29	18.9	78.8	E	1.2	.2		Cu.-N.		☊ a.
25	63.19	23.1	28.5	18.8	83.5	E	1.3	.3	A.-Cu. S	S.-Cu.		☊ a.
26	63.87	23.2	28.4	19.4	83.3	E, SE	1	2	A.-Cu. SE, S	S.-Cu.		☊ a.
27	65.30	23.6	28.2	19.4	80.8	E, NE	1	3.2		Cu.-N. W, NE	11.4	☊ ≡° a.
28	65.36	22.7	26.6	20	83.5	NE	2.3	9.5		Cu.-N., N. NE	34.1	● a. p.
29	65.63	21	22.5	19.5	85.2	ENE	2.8	10		N. ENE	50.2	● a. ●° a. p.
30	65.86	20	21.5	18	89.2	ENE	2.3	10		N. ENE	31.5	● a. p.
31	65.02	21.2	24.2	18.5	88.2	E quad.	2.2	10		N. NE	14.4	●° a. p.
Mean	763.50	22.9	27.1	20	84.3		1.6	4.9				
Total											185	

[a] Deduced from 4 observations only.

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.2	22.3	90	79	8	7	54.6	☊ a. ● p.
2	29.5	21.6	97	93	10	10	12.1	● a. p.
3	29.5	22.1	98	82	10	10	------	●° a.
4	29.8	19.4	94	81	8	8	------	
5	30.8	19.4	95	78	5	5	------	☊ ☊ ☊ ≡° a.
6	30.2	19.3	98	80	5	6	------	☊ ☊ ≡ a.
7	30.4	21.3	98	67	2	6	------	☊ ☊° a.
8	30.6	20.2	95	72	5	5	------	☊ ☊ ☊ ≡° a.
9	30.5	19.5	97	73	5	5	------	☊ ☊ ☊ ≡° a.
10	30.8	18.6	97	79	5	10	------	☊ ☊ ≡ a.
11	29.7	19.5	94	78	5	10	------	☊ ☊ a.
12	29.9	18.5	96	68	5	6	------	☊ ☊ ≡° a.
13	30.5	18.4	94	71	7	5	------	☊ ☊ a.
14	30.3	20.6	87	74	8	6	------	☊ a.
15	30.3	22.8	84	76	6	8	------	
16	30.3	23.3	94	76	6	8	------	●° a.
17	30.3	21.5	95	93	6	10	7.1	☊ ≡° a. ●° p.
18	29.3	23.2	91	78	8	5	------	☊ ☊ a.
19	30.6	21.6	97	82	5	10	------	☊ ☊ ≡° a.
20	30.3	21.5	93	70	6	5	------	☊ ☊° a.
21	30.6	21.6	96	75	5	8	------	☊ ≡° a.
22	30.5	23.6	88	71	8	4	------	
23	30.6	18.9	94	69	3	6	------	☊ a.
24	30.7	19.3	95	79	5	6	------	☊ ☊ ≡° a.
25	30.6	20.5	96	69	5	6	------	☊ ☊ ≡° a.
26	31.1	20.4	96	76	5	6	------	☊ ☊ ≡° a.
27	30.5	20.5	98	74	10	5	------	☊ ☊ ≡° a.
28	30.5	20.9	96	70	5	6	------	☊ ☊ ≡° a.
29	30.8	23.6	81	75	5	5	------	
30	30.1	23.3	85	74	7	6	------	
31	30.6	21	96	71	5	5	------	≡° a.
Mean	30.4	20.9	93.7	75.9	6.1	6.7	------	
Total	------	------	------	------	------	------	73.8	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	1–10.	mm.	
1	------	22.8	96	74	10	3	67.3	d a.
2	28.8	22.3	98	96	10	10	35.6	●² ↘ a. d p.
3	30.3	22.1	98	61	10	8	------	●° a.
4	31.3	20.3	94	81	7	4	------	
5	30.8	20.6	96	70	0	6	------	☊ a.
6	31.8	19.7	92	71	1	3	------	☊ a.
7	30.3	20.3	94	75	0	8	------	
8	31.5	19.6	88	57	10	7	------	⊤° ☊ a.
9	28.8	19.6	93	64	1	7	------	☊ a.
10	29.8	20.1	89	66	3	9	------	☊ ☊ a.
11	28.8	19.1	96	75	10	10	------	☊ ☊ a.
12	31.8	19.9	94	58	9	7	------	☊ ☊ a.
13	32.3	19.5	91	59	1	8	------	☊ ☊ a.
14	------	20.6	91	63	9	5	------	☊ ☊ a.
15	32.3	21.3	89	65	2	4	------	☊ ☊ a.
16	31.8	22.1	83	67	10	4	------	
17	------	21.7	94	69	10	6	------	p° a.
18	32.4	21.6	84	62	10	10	------	
19	28.8	20.9	96	77	10	5	5.1	☊° a.
20	31.3	20.6	95	68	2	5	------	● a.
21	29.6?	21.1	90	65	3	4	------	☊ a.
22	21.5	21.5	97	49	9	3	------	⊤ a.
23	29	19.4	92	65	1	8	------	☊ a.
24	32.3	19.9	95	62	1	4	.3	☊ a.
25	------	21.1	98	69	10	9	------	d ⌒ a.
26	31.3	22	96	68	10	10	------	☊ a. ⊕ p.
27	33	20	96	48	1	3	------	☊ a.
28	32.3	20.8	83	56	10	10	------	
29	------	22.7	91	65	10	6	------	d a.
30	------	21.1	93	52	1	3	------	☊° a.
31	32.1	20.1	95	70	1	4	------	☊° a.
Mean	31	20.8	92.8	66	5.9	6.2	------	
Total	------	------	------	------	------	------	108.3	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.3	23	88	79	10	7	1.8	d a.
2	25.8	22.6	95	----	10	10	58.7	●² a.
3	30.4	22.5	88	48	10	8	------	
4	30.5	21	87	77	7	8	------	
5	31.1	22	86	72	2	2	------	
6	30.5	21.1	82	68	7	8	------	
7	30.5	21.5	84	78	2	10	------	
8	30.5	22	82	63	10	7	------	
9	28.5	20	85	70	9	5	------	
10	28.4	20.3	90	74	6	4	------	☊° a.
11	28.1	20.9	86	78	3	10	------	☊ a.
12	28.2	20	89	70	2	8	------	
13	30.1	19.8	88	72	3	8	------	☊ a.
14	28.6	22	89	74	5	6	------	
15	30.9	22.1	82	74	8	6	------	
16	31.9	22.9	84	74	10	8	------	d a.
17	29.1	23	90	81	10	10	13.7	● a.
18	30	21	89	77	3	9	------	☊ a.
19	28.9	22.2	89	77	10	10	3.6	
20	30.1	21.8	96	58	4	8	------	● a.
21	30	22.9	89	64	8	8	------	
22	29.7	22.4	83	58	9	8	------	
23	29.3	20.9	81	71	3	9	------	
24	30.5	21	80	70	2	2	1.3	
25	30	22.4	93	82	9	9	------	● a.
26	29	22.6	85	75	10	9	11.2	● a.
27	30.1	21	89	71	3	2	------	
28	31.1	23	88	54	7	7	.5	
29	30.4	23	87	74	9	3	------	●° a.
30	31.5	21.2	94	73	3	6	------	
31	30.9	21.4	88	53	8	2	------	
Mean	29.8	21.7	87.3	70.3	6.5	7	------	
Total	------	------	------	------	------	------	90.8	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.7	21.7	98	67	6	5	30.2	● a. p.
2	30	21.5	96	67	7	8	------	
3	30.3	20.3	91	65	6	6	------	
4	30.8	19.9	89	66	5	6	------	
5	31.8	20	95	68	5	7	------	
6	31.3	21.7	97	64	5	6	------	
7	31.1	19.3	96	67	5	7	------	
8	30.2	18.8	97	72	6	8	------	
9	30.6	19.2	91	66	6	7	------	
10	30.5	17	95	77	7	6	------	
11	31.1	17.5	98	59	5	7	------	
12	30.7	17.9	96	56	5	6	------	
13	30.7	17.3	95	77	7	8	21.6	● p.
14	31.3	20.9	93	88	6	9	31.7	●² p.
15	30.2	21.3	98	71	6	8	24.4	● p.
16	29.6	21.3	96	80	6	8	------	d p.
17	30.2	21.3	96	67	7	8	------	
18	31	19.7	95	61	5	6	------	
19	29.2	19.6	95	75	5	8	------	
20	29	21.3	96	80	7	6	------	
21	29.2	20.9	94	86	6	8	2.5	●° p.
22	30.5	20.3	95	70	6	8	------	
23	30.2	19.4	95	72	6	8	21.1	● p.
24	29.7	21.4	96	82	5	8	16	● p.
25	31.2	19.1	95	73	6	8	7.9	● p.
26	31	19	95	72	5	6	------	
27	31.1	19.9	94	70	5	6	------	
28	31.3	20.6	96	69	5	6	------	
29	30.8	21.6	96	64	5	7	------	
30	31.2	21.5	94	61	6	5	------	
31	31.7	20.8	95	75	7	6	------	
Mean	30.6	20.1	95.1	70.5	5.8	7	------	
Total	------	------	------	------	------	------	155.4	

Meteorological data for third and fourth class stations—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	23.5	91	80	8	9	.....	☋ p.
2	32.4	23	91	66	10	9	.....	☋ p.
3	32.8	21	81	59	7	6	.....	☊ a. ☾ ☋ p.
4	33.4	20.7	82	54	4	6	.....	☊2 a.
5	34	20	86	57	3	5	.....	☊ a. ☇ p.
6	33	21.2	95	56	9	8	.....	
7	31.9	20.4	91	65	3	8	.....	☊2 a.
8	31.1	20	93	61	6	9	.....	☊2 a. ☇ p.
9	32.5	19.5	93	61	4	6	.....	☊2 a. ☇ p.
10	34.6	19.4	91	53	5	4	.....	☊2 a.
11	33.8	20	95	56	8	7	.....	☊° ☰° a.
12	33.9	19	88	59	4	5	.....	☊2 a.
13	33.4	17.4	94	55	3	7	.....	☊2 a.
14	32.2	21.7	97	62	9	6	.....	☊ ☰° a. ◠ p.
15	32.6	23.2	95	87	10	10	7.7	●° a. p. ● p.
16	32.6	22.7	96	71	10	8	.8	☐ ☇ d° p.
17	32.5	22.9	94	65	10	8	.....	●° a.
18	34	22.3	90	55	5	6	.....	☊° a. ☇ p.
19	31.5	22.3	91	67	6	8	21.3	☊ a. ● ☐ ☇ p.
20	32.6	21	95	71	5	9	.8	●° p.
21	30.5	22	96	68	8	8	4.8	☰° ◠ a. ● p.
22	32.8	21	95	63	9	6	2	☰° a.
23	31.9	21.3	96	65	7	5	11.4	● a. ☇ p.
24	33.5	22.6	92	62	8	7	.....	● a. ☇ p.
25	33.9	22.3	91	58	3	4	.....	☊° a.
26	33.6	20	91	62	2	6	.....	☊2 a. ☇ p.
27	34	20	95	59	3	7	.....	☊2 ☰° a. ☃ p.
28	33.4	21.9	91	63	8	8	.....	
29	33.9	22.5	95	62	7	6	.....	☊° ☰° a. ☇ p.
30	33	22.8	90	59	9	8	.....	⊤ p.
31	34	22.2	91	60	7	6	.....	☊ a. ☾ ☋ p.
Mean	32.9	21.3	92	62.6	6.5	6.9	.....	
Total	.....	.....	.....	.....	.....	.....	48.8	

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 a. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	23	95	72	8	9	.....	☊ ☰° a.
2	28.4	21.5	91	73	7	8	.....	☊2 a. ☇ p.
3	29.9	18.6	86	56	8	4	.....	☊ a. ☇ p.
4	30.6	18.6	86	57	3	4	.....	☊2 a.
5	30.8	18	78	58	1	4	.....	☊2 a.
6	30.6	18.6	81	63	2	4	.....	☊2 a.
7	30.5	19.5	86	73	2	8	.....	☊ a. ☇ p.
8	28.4	17.9	91	69	2	2	.....	☊2 a.
9	29	19.2	89	61	6	3	.....	☊2 a.
10	29.2	18	86	62	4	3	.....	☊2 a. ☇ p.
11	30	18.5	92	66	5	5	.....	☊2 a. ☇ p.
12	29.8	18.5	80	57	3	2	.....	☊2 a. ☇ p.
13	29.2	18.8	77	68	9	8	.....	☊ a. d° p.
14	27.9	19	83	72	2	7	.....	☊ a.
15	31.1	22.8	89	72	5	10	0.3	☊° a. d ☇ p.
16	29.7	22.4	94	65	8	7	.....	☊2 a.
17	30.2	21.5	95	66	3	6	.3	☊ a.
18	28.6	23.5	91	70	8	4	1.3	☊ a. ●° p.
19	28.6	22.8	96	76	4	10	.8	☊ ☰° a. d p.
20	29.7	20.9	95	59	4	5	.....	☊ a.
21	28.1	22	92	66	10	9	.....	☊2 d° a. ☇ p.
22	29.2	19.5	87	64	3	3	.....	☊ a.
23	29.6	19.6	90	66	1	3	.....	☊ a.
24	30.3	22.1	93	64	3	3	.....	☊ a.
25	30.9	21.2	91	61	0	2	.....	☊ a.
26	30.2	19.2	89	64	2	3	.....	☊2 a.
27	28	19.5	86	76	1	9	1.3	☊ a. ● p.
28	29.2	21.9	96	67	4	6	.....	☊ a.
29	29.4	20.1	92	71	3	7	16.8	☊ a. ● p.
30	29.9	23	97	66	7	3	.....	☊ ☰ a.
31	29.5	21.5	93	73	3	3	.....	☊ a.
Mean	29.6	20.4	89.3	66.2	4.2	5.3	.....	
Total	.....	.....	.....	.....	.....	.....	20.8	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28	22.8	95	85	8	7	2.1	●° a. p.
2	28	21.8	96	62	7	7	.....	☊ a. ⊕ ☾ p.
3	28.1	20	93	67	7	7	.....	☊ a. p° d° ☋ p.
4	28.3	20.9	91	47	6	5	.....	☊ p° a.
5	28.5	19.5	92	69	9	7	.3	☊ a. ●° p.
6	28.5	20.4	94	70	1	3	.....	☊ a. ☋ p.
7	27.5	21.4	85	75	9	3	1.8	☊ ●° a.
8	27.5	17.8	95	58	3	2	.....	☊2 a.
9	27.6	18.6	98	71	10	7	.....	☊2 ☰ a. ⊕ p.
10	28.5	19.5	91	66	9	7	.....	☊2 a.
11	28.5	20.5	91	65	6	7	.....	☊ a. ⊕ p.
12	29.2	21	87	60	6	2	9.1	☊ a.
13	27.7	22.1	91	71	10	7	2	● d° a.
14	26.5	20.1	96	77	5	9	.....	☊ p° a.
15	26.7	21.8	96	87	6	7	.6	☊ d° a. ●° p.
16	25.8	21.9	95	89	9	10	1.5	☊ a. ●° p.
17	27.3	21.1	95	73	9	7	5.8	☊ p° a. ● p.
18	26.5	22.6	97	84	9	9	12	☊ ●° a. ● p.
19	25.5	21.9	93	91	10	10	20.9	d° ● a. p.
20	27.2	21.2	96	68	10	5	3.3	☊2 ☰° ◯ a. d° p.
21	25.5	22.4	97	86	10	9	6.4	● a. ◠ p.
22	25.9	20.7	96	87	10	10	3	☊ a. ●° d° a. p.
23	27.2	20.6	97	67	5	5	5.1	☊2 ☰ a. ◠ p.
24	27	22.6	98	80	9	7	1.5	● a. ●° d° p.
25	28.6	21.4	93	70	2	4	.....	☊ a.
26	28.1	20.2	97	63	3	3	.....	☊ a.
27	25.3	20	95	91	8	10	7.4	☊ p a. ●° d° p.
28	27.3	21.2	95	69	5	3	.....	☊2 ☰° a.
29	27.1	23.1	95	79	9	10	14	☊ ●° a. ● d° p.
30	27.6	22.4	96	70	9	7	.....	☊ a. p° p.
31	28.4	21	96	63	1	3	.....	☊2 a. ☋ p.
Mean	27.4	21	94.3	72.9	7.1	6.4	.....	
Total	.....	.....	.....	.....	.....	.....	96.8	

DUMAGUETE.

[ϕ=9° 18′ N; λ=123° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.1	24.4	79	72	10	10	.....	☊° a.
2	28.3	21.3	.....	69	10	10	.....	d a.
3	27.8	23.4	.....	75	10	10	1	d² ☾° p.
4	28.8	21.7	84	75	10	10	2.5	d² a. ●° ◠² ☾° p.
5	29.2	22.8	81	70	5	4	.....	
6	28.6	22.8	.....	87	10	10	.....	☋² ☊ a. d p.
7	29.2	22.4	79?	69	10	10	3.7	☊° ●° a.
8	28.2	20.7	79	66	10	10	1.3	☊ ◠° p a.
9	29.2	22.2	81	60	10	8	.....	☊ a.
10	29	23	87	73	10	10	.....	☊ a.
11	29	23.2	.....	66	10	10	.....	☊ a. ◯² a. p.
12	30.4	22	82	59	10	10	.....	☊2 a.
13	27.2	22.3	84	81	10	10	4.3	☊ ●° d a. d° p.
14	29.2	22.8	76	76	10	5	.....	☊ a.
15	30	22	80	65	10	10	.....	☊ a.
16	30.4	23.5	81	68	10	5	.....	☊ a.
17	28.8	22.8	77	64	10	10	.....	
18	28.9	21.8	83	69	10	10	2.5	☊ a. d² a. p. ●° p.
19	28.9	22.8	83	55	10	10	.....	☊ d° a.
20	30	22.5	84	63	10	9	.8	☊° a. ●° p.
21	29.3	22.6	81	66	10	10	.....	☊ a.
22	28.6	21	87	63	1	1	.....	☊ a.
23	30	20.7	88?	74	10	2	.....	d a.
24	29	22.8	88	76	7	4	.....	☊ ☾ d a.
25	29.8	20.9	81	68	10	2	.....	☊ a.
26	29.8	22.4	77	64	10	10	.....	☊ a.
27	30.7	21	80	63	7	10	.....	☊° a. d p.
28	30	23.2	80	56	10	9	.....	☊° a. d p.
29	30	23.7	85	63	10	4	.....	☊° a. d p.
30	29.4	23.8	79	61	10	6	.....	☊° a.
31	29.4	22.7	77	67	6	7	.5	☊ a.
Mean	29.2	22.4	81.6	67.8	9.2	7.9	.....	
Total	.....	.....	.....	.....	.....	.....	16.6	

Meteorological data for third and fourth class stations—Continued.

YAP (WESTERN CAROLINES).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1								
2								
3								
4								
5								
6								
7								
8								
9	28.9	26.2		65		9		
10	29.7	23.6	75	65	9	7		
11	29.5	23.4	82	64	5	9		☊ a.
12	28.1	23.6	78	95	10	10	3.3	● a. p. p.
13	29.2	24.3	84	74	10	10	1	☋ p. a. d p.
14	29.6	24.1	89	70	10	9		d a.
15	30.2	24.4	77	70	4	6	.3	● p.
16	30.5	23.7	87	73	5	9		
17	30	24.3	82	64	10	9		d p.
18	30.1	23.6	70	56	10	9		
19	29.8	24.1	70	60	10	9		
20	29.8	22.7	80	67	10	9	9.9	d p.
21	27.9	21.9	96	68	10	10	1.5	● d a. ● p.
22	28.7	22.3	76	63	8	4		
23	29.3	20.8	79	68	8	10		
24	29.3	22.9	75	51	9	3		
25	29.7	22.3	78	63	9	8		
26	29.9		78	75	9	9	15	d a. ● p.
27	29.2	23.1	82	70	10	9		d a. d p.
28	29.4		77	70	10	6	1.8	d p.
29	29.3	23.2	87	74	10	9	6.1	● a. d ☋ p.
30	29.9	21.5	97	79	10	10	26.9	d a. ● p.
31	28.5		77	69	8	7		
Mean	29.4	23.3	80.7	68.4	8.8	8.3		
Total							[a] 65.8	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.6	23.3	93	90	10	10	10.6	● a. p. d p.
2	29.5	22.3	95	71	8	8	.1	☊ d a.
3	29.2	20.8	95	90	8	10	2.8	☊ a. d ● ☋ p.
4	29.7	23	84	63	9	7	.1	d a.
5	29.3	23.9	80	70	4	2		
6	29.8	22.5	94	76	8	6	3.4	d ● a. ∞ p.
7	28.6	22.4	95	71	10	3	6.5	● a.
8	29 4	21	95	81	6	6		d a.
9	29.2	20.1	97	79	3	6		☊ a.
10	29.7	20.4	96	64	2	5		☊ a.
11	29.3	20.6	95	70	5	9		☊ a.
12	30	21.7	93	62	8	4	26.7	☊ ☾ a. d a. p.
13	28.2	22.6	88	78	8	7	2.3	p a. ● a. p. d p.
14	28.9	23.4	83	81	6	6	.3	d p.
15	29.2	23	85	76	8	6	.1	d a. d p.
16	29.7	24.5	85	75	6	6		d p.
17	26.2	21.4	96	94	9	10	55.6	☊ d ● a. d ● p.
18	24.1	22.1	94	97	10	10	69.1	● a. p.
19	28.9	22.2	98	74	7	7		
20	27.6	21.4	96	83	8	9	19.1	☊ d a. ● a. p.
21	28.7	22.5	96	72	10	5	.4	● d a.
22	26.2	21	86	89	5	10	9.8	☿ a. p. ● ☾ p.
23	27.7	20.7	97	81	4	5	2	● p.
24	29.5	22.8	92	74	8	4		p d a.
25	29.3	20.5	96	70	9	3		☊ d a.
26	29.6	22.1	92	71	4	5	.5	● p.
27	27.1	21.7	96	91	8	10	13.3	d ● a. d p.
28	29.6	20.8	95	78	6	4	.6	● a.
29	27.2	22	95	86	10	9	9.9	● d a. ● d p.
30	29.3	20.7	95	74	9	4		d a. ∞ p.
31	29.6	21.2	96	74	3	2		☊ a. ∞ p.
Mean	28.7	21.9	92.7	77.6	7.1	6.4		
Total							233.2	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	22	91	79	10	10		d ◠ ☿ ☿ p.
2	30.5	21.2	89	64	10	10		
3	30.6	21.1	91	88	10	10		◠ d a. p.
4	29.2	21.2	89	83	10	10		
5	29.8	21.4	82	82	10	9		
6	29.8	21.3	94	75	10	10	19.6	● a. d a. p. p p.
7	30	22	90	80	10	10		◠ d p.
8	29.8	20.8	95	83	10	10		
9	30	20.6	87	81	10	10		∞ ☿ p.
10	29	20.5	87	87	10	10		
11	29	20.6	94	81	10	10		
12	29	20.6	95	84	10	10	11.2	d ◠ a. ☿ p.
13	29.5	21.6	93	83	10	8		
14	29.8	22	93	84	10	10		
15	31	20.6	89	81	8	5		
16	31	20.6	93	87	10	10		
17	31.2	20.4	93	89	10	10		d a. p. ◠ p.
18	31	20.4	91	84	10	10		d p.
19	31.1	20.4	87	78	10	10		
20	30	20.5	89	80	10	10		
21	29.2	20.4	89	81	10	10		☋ ☿ p.
22	29.4	19	91	70	10	10		∞ ☿ p.
23	29.4	18.7	89	82	10	4		∞ ☿ ◠ p.
24	30.5	19.6	87	78	10	5		
25	30.6	19.8	86	79	10	4		
26	29.8	19	89	81	10	10		
27	29.9	19	93	86	10	10		d p.
28	30	21.4	92	81	10	10		
29	29.8	21.6	87	91	10	10	42.9	◠ ☾ a. d ● a. p.
30	30.6	21.4	91	73	10	8		
31	30.5	20.7	93	88	10	8		
Mean	30.1	20.7	90.3	81.4	9.9	9.1		
Total							73.7	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.3	19	90	54	8	10		☊ ☿ a. ◯ p.
2	33.8	18.9	89	63	6	10		☊ ☿ a.
3	33.2	20.5	83	60	10	10		◯ a.
4	33.2	18.1	82	60	7	10		
5	34.9	19.5	69	46	10	0		
6	33.8	20.6	87	62	0	9		d p.
7	34.2	23.3	84	52	9	1		
8	33.3	18.4	84	56	1	4		
9	33.3	19.5	87	60	5	7		☊ ☿ a.
10	33.9	20.6	89	66	10	10		☊ ☾ a.
11	31.9	20	90	66	7	10		☊ ☿ a.
12	31.8	20.5	79	68	10	10	0.5	☊ ☿ a.
13	34.3	22	94	65	10	6		● ☿ a.
14	33.4	18.4	87	50	4	7		☊ ☿ a.
15	32.8	18.1	78	57	8	9		
16	33.3	19	82	56	9	5		
17	32.8	17.5	86	54	10	5		☊ ☿ a. ♁ p.
18	33.3	16.6	90	56	2	10		☊ ☿ a.
19	33.8	17.9	89	57	9	9		☊ ☿ a.
20	34.3	19	86	58	8	10		d ☿ p.
21	33.4	18.5	85	58	9	7		
22	33.8	15	84	43	0	0		☊ ☿ a.
23	32.8	17.2	72	53	0	0		
24	33	19.2	82	63	1	2		
25	32.9	18.5	84	57	0	0		☊ ☿ a.
26	33.8	18.9	86	55	2	1		☊ ☿ a.
27	33.8	18.5	87	53	4	8		☊ ☿ a.
28	33.3	18.5	81	52	10	1		
29	33.8	19.8	86	49	3	2		
30	34.3	19.4	88	54	0	3		☊ ☿ a.
31	33.9	18.5	81	56	0	1		☊ ☿ a.
Mean	33.5	19	84.5	56.7	5.5	5.7		
Total							.5	

[a] 22 days of observation.

Meteorological data for third and fourth class stations—Continued.

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.3	25.1	78	72	9	8	------	☊ a.
2	29.3	25.1	83	67	9	8	------	☊ a.
3	29.9	24.3	87	64	10	8	------	☊² a.
4	29.8	24.6	79	65	8	8	------	☊² a.
5	29.7	24.2	90	65	8	7	------	☊² a.
6	28.8	24.7	87	72	8	8	------	☊ a.
7	28.9	25.1	80	66	8	7	------	☊° a.
8	29.6	24.2	80	59	8	7	------	☊° a.
9	30.9	22.8	91	66	8	7	------	☊ a.
10	29.4	24.1	88	70	8	8	------	☊ a.
11	29.3	24.5	88	69	8	8	------	☊² a.
12	30.6	22.7	93	64	8	8	------	☊² a.
13	30.9	24.9	86	62	10	7	------	d a.
14	29.4	23.8	84	59	8	6	------	☊² a.
15	29.7	24.1	73	60	8	7	------	☊ a.
16	30.1	24.6	78	66	9	8	------	☊ a.
17	29.7	24.4	77	61	8	6	------	☊ a.
18	30	24.2	83	65	8	8	------	☊ a.
19	29.2	24.6	78	64	9	8	------	☊ a.
20	29	24.6	80	67	8	6	------	☊ a.
21	29.3	24.7	75	61	9	8	------	☊ a.
22	29.5	23.6	77	58	8	3	------	☊ a.
23	29.7	23.6	81	62	9	6	------	☊ a.
24	30.1	24.1	83	66	8	7	------	☊ a.
25	30.6	24.8	84	62	7	6	------	☊ a.
26	29.9	24.6	81	63	8	6	------	☊ a.
27	29.9	24.7	81	63	8	3	------	☊ a.
28	29.5	24.6	81	67	9	5	------	☊ a.
29	29.3	24.6	81	67	8	3	------	☊ a.
30	29.7	24.7	86	67	8	4	------	☊ a.
31	30	24.4	84	66	8	6	------	☊ a.
Mean	29.7	24.4	82.5	64.7	8.3	6.6	------	
Total	------	------	------	------	------	------	------	

GUIUAN.

[ϕ=11° 03′ N; λ=125° 43′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.9	22.5	83	79	8	8	------	d a. ☋° p.
2	28.9	23.4	86	75	7	8	1	p a.
3	28	21.8	88	81	7	9	2.1	●° a.
4	29.4	21.4	77	72	3	7	.5	●° a.
5	29.3	22.3	81	72	2	1	14.5	●° a. ● p.
6	29.2	23.1	87	76	7	6	8.1	● a. ☋² p.
7	28.4	21.9	77	71	7	6	8.4	● a. ●° p.
8	28.8	22.2	93	74	8	5	1.8	● a. ●° p.
9	28.9	21.8	99	78	8	9	------	●° a. ☊² p.
10	28.1	19.3	99	88	2	8	1.8	☊² a. p p.
11	28.8	20.1	99	70	3	7	------	●° a.
12	28.7	20.9	98	92	6	10	38.8	● a. p.
13	28.6	22.6	79	77	4	9	------	☋° p.
14	28.3	23	82	70	8	7	------	
15	28.4	23.8	81	72	2	4	------	
16	28.9	23.8	82	70	6	7	------	
17	29	22.2	84	70	9	7	------	
18	29.1	24.4	75	61	9	2	------	
19	28.7	23.1	82	68	6	2	------	☊ p.
20	28.8	22.8	81	75	4	9	------	☊² a.
21	28.7	23.6	75	68	5	6	------	
22	28.3	22.9	76	71	8	2	5.1	●° p.
23	30	20.2	97	68	1	1	------	●° a. ☊² p.
24	30.2	18	98	69	1	3	------	☊² a. ☊° p.
25	28.9	18.5	94	70	7	2	------	☊² a.
26	28.6	23	81	71	5	2	5.8	● a.
27	28.2	23.3	81	72	8	9	4.3	☊° ● a.
28	28.7	23.6	79	72	6	4	1.5	●° p.
29	28.3	22.1	95	74	9	9	------	
30	29.4	23.4	75	73	8	7	------	
31	29.1	20.6	92	66	9	1	4.3	● a. ☊° p.
Mean	28.8	22.1	85.7	73.1	5.9	5.7	------	
Total	------	------	------	------	------	------	98	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.5	24.4	78	68	7	6	------	●° a.
2	28.8	21.8	96	74	5	6	0.8	○° ☋ p.
3	28	21.3	83	77	6	7	1.5	● a. ☋ p.
4	29.5	23.7	75	76	5	6	3	◠ a. ● ☋ p.
5	29.5	21.3	94	70	4	7	9.7	●° a. p.
6	28.9	23.3	88	81	8	8	19.8	● a. p.
7	28.5	23.2	71	65	4	5	10.4	d a. ● p.
8	27	21.4	98	86	10	9	28.2	● a. p.
9	28.2	22.4	97	77	10	8	17.3	● a. p.
10	28.9	20.3	99	89	3	9	2.8	☊ ≡ a. ● d p.
11	29.4	20.9	100	72	7	7	1	☊ ≡ ● a.
12	27.8	22.1	97	92	9	10	36.6	d a. ● a. p.
13	28.5	22.7	79	68	7	7	.5	●° p.
14	28.8	20	97	67	6	5	.3	☊ ≡ a. ●° p.
15	29	21.5	97	70	5	6	------	☊° ≡ d a.
16	28.8	21	98	65	6	5	------	☊ ≡ a. d p.
17	28.7	21	98	66	6	5	------	☊ ≡ a. ◯° p.
18	28.7	20	96	67	7	6	1	☊ ≡° a. ◯ p.
19	29	19.5	98	65	9	5	2	●° a.
20	28.8	21.1	97	72	6	7	1.3	● ≡ a. ●° p.
21	28.4	20.9	96	61	6	4	------	●° ≡° a.
22	28.8	18.2	98	60	5	6	24.9	☊ ≡ a. ● p.
23	29	21.7	98	72	10	6	.3	●° d² a.
24	29.4	19.3	98	67	5	5	1.3	☊ ≡° a. ●° p.
25	29.3	19.5	98	68	9	6	2.5	●° a. p.
26	28.2	22	84	79	6	7	1.3	●° a. p.
27	28.5	21.2	98	69	6	6	.3	≡ ●° a.
28	28.8	20.6	96	69	7	4	15.3	☊ ≡° ◠ a. ●° p.
29	28.7	21.3	96	73	9	6	10.2	≡° a. ● a. p.
30	29	20	99	63	6	6	3.9	≡ ● a.
31	29	21	93	63	8	3	.3	●° a. ◠ ☋ p.
Mean	28.8	21.2	93.2	71.3	6.7	6.2	------	
Total	------	------	------	------	------	------	196.5	

MASBATE.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.8	23.4	97	76	9	8	------	
2	28.8	22.4	98	80	10	10	1.8	
3	28.6	22.2	97	81	10	9	.8	
4	29.5	22.2	97	82	10	9	1.8	
5	30.2	23.4	98	81	10	8	5.6	
6	26.8	23.8	98	96	10	10	4.6	
7	29.5	22.4	93	77	6	5	.3	
8	29.4	21.5	98	82	9	9	------	
9	28.4	22.4	98	85	8	8	------	
10	30.6	22.5	98	66	8	8	.5	
11	29.5	22.5	100	85	9	9	------	
12	26	22.4	99	99	10	10	10.9	
13	29.5	22.4	95	80	8	8	------	
14	28.6	22.6	97	80	9	9	------	
15	28.6	------	94	80	8	8	------	
16	30.2	24.6?	94	75	9	6	------	
17	30	------	98	83	8	6	------	
18	30.4	24.5?	92	76	8	6	------	
19	30.5	24.4	94	78	7	6	------	
20	29.2	24.5?	98	82	9	10	.8	
21	30	------	96	77	8	4	------	
22	30.2	------	94	74	8	4	------	
23	28.5	24.5?	91	84	8	9	------	
24	30.2	------	100	75	4	3	------	
25	30	------	100	75	9	6	------	
26	30.6	------	100	78	10	6	------	
27	30	------	96	83	10	7	------	
28	29.6	24.6	92	89	8	6	2	
29	30.2	22.8	90	82	9	4	------	
30	30.2	22.2	100	92	7	3	------	
31	------	22.5	99	------	10	------	------	
Mean	29.5	23.1	96.5	81.1	8.6	7.1	------	
Total	------	------	------	------	------	------	29.1	

Meteorological data for third and fourth class stations—Continued.

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	31.8	23.2	86	64	9	9	------	
2	33	21.1	87	64	10	8	4.6	
3	31.8	22.8	87	70	10	8	.3	● a.
4	31.8	22.9	86	69	4	5	.3	●° a. p° p.
5	30.6	23.4	92	87	10	8	10.5	p° a. p. ● p.
6	31.6	22.8	93	76	10	10	------	p a.
7	31.9	23.2	80	60	10	4	8.4	p° a. p. ● p.
8	31.9	20.8	96	64	8	1	1.8	
9	32	22.9	91	66	10	3	------	●° p° a.
10	32.8	21.2	94	70	10	5	4.8	
11	30.9	22.4	92	64	9	9	6.9	● a.
12	26.8	22.3	94	92	10	10	23.9	● a. d ●° p.
13	31.4	22.9	82	66	10	2	------	● a.
14	32.5	22.9	81	59	10	1	------	
15	32.6	21.8	89	64	8	1	------	
16	32.5	22.4	86	65	10	3	------	
17	31.9	22.8	84	65	10	2	------	
18	32.2	21.7	86	63	10	2	------	
19	32	21.9	91	62	10	3	------	
20	32.9	23.5	86	64	9	8	------	p° p.
21	32.1	21	88	59	5	1	------	
22	31.8	20.2	85	56	7	1	------	
23	31.7	19	95	55	10	1	------	
24	31.9	20	87	66	10	1	------	
25	32.8	21.1	83	67	7	4	------	
26	32.5	21.5	83	60	10	1	------	
27	32	22.2	90	63	10	1	------	
28	32.6	22.4	85	56	9	1	------	
29	32.1	21.5	89	65	10	1	------	
30	32.4	22.1	88	54	10	1	1.5	
31	31.7	21.9	91	69	10	5	4.1	●° a.
Mean	31.9	22	88	65.3	9.2	3.9	------	
Total	------	------	------	------	------	------	67.1	

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	29.8	21.6	96	73	9	8	------	☊ a. ☿ ♆ p.
2	29.6	20.4	99	80	6	10	1.8	☊² a. d p.
3	30.3	22.4	88	90	9	9	3.6	●° a. p. p p.
4	29.7	22.2	97	73	9	8	1.6	● ◠ a. ●° p.
5	29.9	21.4	97	79	9	8	6.1	◠ ●° a. ● p.
6	29.1	24	97	96	9	9	21.3	◠ a. ● a. p.
7	29.4	22.9	84	69	5	4	------	p a.
8	29.2	22.4	87	86	9	9	15.5	p ●° a. d ● p.
9	27.4	22.7	97	89	9	9	3.1	● a. d ●° p.
10	28.5	20.8	----	76	2	7	3.8	☊² a. ● p.
11	30.3	21	----	69	3	7	9.4	d a.
12	29.7	22.3	99	83	10	9	12.9	● a. p.
13	27.5	23.1	91	70	9	5	------	● a.
14	28.8	19.1	----	68	8	4	------	☊² a.
15	29.6	20.5	98	69	4	6	.8	☊ p a. ●° p.
16	29.6	19.7	99	73	5	4	------	☊² a. d p.
17	29.7	20	----	64	3	4	------	☊ a.
18	29.9	21.7	96	70	5	6	.3	☊ d p a. ●° p.
19	29.6	21.2	98	71	7	7	6.1	☊ a. d a. p.
20	30.1	22.7	93	76	9	8	.2	● ◠ a. d p.
21	28.5	20.5	88	63	5	5	------	☊ a.
22	29.5	19.2	----	65	5	4	2.8	☊² a. p p.
23	30.3	21.8	99	71	9	3	2.3	● a. d p.
24	30	19.3	----	66	1	2	------	☊² a.
25	30.2	19.1	----	70	3	4	------	☊² a.
26	29.6	21.8	96	68	4	4	.5	☊ p ◠ a.
27	30	20.1	----	65	6	6	.2	☊² a.
28	30.2	23	91	78	7	9	.2	p a. d a. p.
29	30.5	22	93	73	9	3	2.1	●° ◠ a. p a. p.
30	29.4	20.8	----	66	5	2	1.3	☊ a.
31	30	20.2	99	65	3	2	------	●° a.
Mean	29.5	21.3	94.6	73.4	6.3	6	------	
Total	------	------	------	------	------	------	95.9	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	27.7	23.3	89	76	7	10	1.8	d a.
2	29	22.2	88	79	9	8	3.6	●° p.
3	27	22.5	88	83	8	10	4.8	●° a. p. ◯ p.
4	28.2	23.8	92	84	10	9	1.8	d a.p.
5	27.5	23	88	88	8	9	6.3	p° ●° p.
6	27.4	24.3	87	85	10	8	------	●° a.
7	28	24.1	81	78	9	8	1.8	◠ a. ●° p.
8	28	23.5	83	81	9	10	1.8	p° p.
9	28.3	23	96	81	10	7	1.8	d p.
10	28.9	22.3	97	79	10	10	1.3	d a. d° p.
11	27.5	22.2	96	85	10	10	8.4	d° a. p.
12	27.3	23.4	98	92	10	10	21	● a. p. d p.
13	27.6	23.9	91	78	10	10	------	d a.
14	27.4	22.8	92	77	10	9	------	
15	28.5	22	92	80	10	7	1.3	d p.
16	28.4	21.9	96	76	8	10	------	d a.
17	28	20.8	95	89	9	10	------	d ◠ a.
18	28.2	22.2	87	74	10	9	------	
19	28.6	20.2	97	79	10	10	3.3	d a.
20	27.3	22	97	80	10	10	1.3	●° p.
21	27.9	21.1	91	78	10	8	------	
22	28.3?	19.4	92	75	7	7	------	
23	28.6	19.7	95	82	10	10	10.9	d a.
24	28.8	21.1	99	77	10	8	------	● a.
25	28.2	24.1	85	74	9	8	------	
26	28	22.3	96	81	7	10	2.8	●° a.
27	28.2	22	94	76	7	7	------	d a.
28	28.5	22.6	93	79	10	10	12.7	● p.
29	27.9	21.6	96	84	9	10	2.5	● a.
30	28	21.6	91	77	9	10	4.3	●° a.
31	28.2	21.6	96	84	8	8	20.1	● a.
Mean	28	22.3	92.2	80.4	9.1	9	------	
Total	------	------	------	------	------	------	113.6	

SUMAY, GUAM (LADRONE ISLANDS).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	27.4	23.8	83	72	7	10	------	
2	29	24	83	66	10	8	------	
3	29	23.8	83	66	6	5	------	
4	26	23.8	83	79	8	10	5.1	
5	27.8	22.4	83	70	10	5	5	
6	27.6	23	83	74	10	10	------	
7	29	23	83	70	3	5	------	
8	28.6	21.2	82	66	7	8	------	
9	28	23.2	83	66	5	5	------	
10	28.6	23	83	68	5	6	------	
11	28.8	24.2	87	70	10	8	2.5	
12	28.8	23.6	83	70	6	7	5.1	
13	28	23	87	84	10	10	5.1	
14	27.8	23	83	70	10	8	3.8	
15	27.4	23	88	74	10	10	5.1	
16	29	21	83	70	10	10	------	
17	28	23.2	83	70	5	10	------	
18	28	23.8	83	68	10	6	------	
19	28	23.2	83	71	10	10	------	
20	28	23	83	72	10	10	------	
21	28	23.2	85	70	6	10	2.5	
22	27.8	22.6	91	75	10	7	2.5	
23	27.4	23.4	83	70	8	6	------	
24	27.8	23.4	83	70	5	5	------	
25	27	22	91	72	10	8	7.6	
26	27.4	23.2	83	71	8	8	1.3	
27	26.4	22.8	83	70	10	10	------	
28	26.4	23.2	88	84	6	10	5.1	
29	27.6	22.2	86	72	10	6	------	
30	29.4	22.4	85	70	10	5	------	
31	29	24	88	70	10	5	------	
Mean	28	23.1	84.5	71.3	8.2	7.8	------	
Total	------	------	------	------	------	------	50.7	

Meteorological data for third and fourth class stations—Continued.

CALAPAN.
[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1								
2								
3								
4								
5								
6								
7	30.6	22.1	87	75	10	10	1	p p.
8	30.1	21	89	65	10	8		☾ a.
9	30	21	92	72	10	3		
10	30.5	20.1	93	72	10	10		
11	31.2	23.9	90	67	10	10	.5	●° p.
12	29.5	23.1	95	76	10	10	1.3	d a. p.
13	30.1	23	96	69	10	4	8.9	● a. p p.
14	31	22.5	92	57	10	2	.3	d p.
15	31.5	21.1	87	50	10	4		
16	31	22.5	90	65	10	10		
17	31	24	81	56	10	3		
18	31.6	20.5	93	55	10	2		
19	31.8	22.1	94	59	10	8	.5	●° p.
20	31.6	22.1	84	52	10	8		
21	31.7	21	90	53	10	8		
22	31	21.3	91	54	10	2		
23	30.5	20.1	92	53	8	2		
24	29.5	19	87	66	10	3		
25	31.2	20.8	92	71	10	2	1.3	p p.
26	30.4	20.2	95	57	10	3		
27	30.4	22	82	58	9	9		
28	31.2	21.5	95	57	10	8		
29	30.8	21.2	92	60	8	3		
30	30.6	19.2	91	63	5	8		
31	30.1	22	82	60	10	5		
Mean	30.8	21.5	90.1	61.7	9.6	5.8		
Total							[a] 13.8	

VIRAC.
[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.6	20.5	95	69	10	10	3.2	p a. d° a. p.
2	32	20	95	71	6	10	1.3	d° a. p. ☾ p.
3	30.4	22	84	66	8	10	1.9	d° a. p. ☾² ☿° p.
4	29.8	22.8	87	93	10	10	33.5	p° a. ● a. p.
5	28.6	22.5	85	80	10	10	17.8	● a. ◠² d p.
6	31.2	22	91	65	10	8		
7	30.6	21	80	63	3	6		♌ a. p° p.
8	30.5	21.5	82	66	5	6		p° a. p.
9	30.4	21	95	68	9	6	.5	p a. p.
10	29	20.9	98	92	2	10	7.5	d a. ● a. p.
11	30	20	100	83	5	10	18.3	≡² ♌² p° a. ● p.
12	29	22.8	91	76	10	10	8.9	● ✓° a. d° ●° p.
13	29.8	22.2	87	67	10	9	.3	●° d a. ◠ p.
14	30	19	95	64	8	9		♌² a.
15	30	19	98	68	4	8		♌² ≡ a. p° p.
16	30.2	20	97	63	5	7		♌² ≡ a.
17	31	20.3	91	61	9	7		♌ a.
18	30.5	19	97	66	5	7		♌ ≡° d° ◠ a.
19	31	19.9	95	66	5	9		♌ a. d° p.
20	30	21	89	69	6	9		p° d° p.
21	30.5	18.2	95	53	5	3		
22	31	17.5	94	53	4	6		♌ a.
23	30.8	18.5	97	80	3	9		♌ a. p° p.
24	30	19.6	96	71	10	3		♌ a. ⊤ p.
25	30.5	18.2	97	60	4	3		♌² ≡ a.
26	29	18.8	96	74	4	10	3	♌² ◠° ●° a. d° p.
27	30.5	19.5	98	63	5	7		♌² a.
28	31	20	96	61	10	6		♌ a. p° ♃ p.
29	30.5	21	83	68	10	7	1	d° a. p. d ♃ p.
30	30.4	19.5	96	62	5	6	3.8	●° ≡° a. ♃² p.
31	30.2	21.2	94	70	10	9	.3	● a. d° a. p.
Mean	30.3	20.3	92.7	68.7	6.8	7.7		
Total							101.3	

NUEVA CACERES.
[ϕ=13° 37′ N; λ=123° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	16.4	96	48	3	8		
2	31.2	16.1	99	55	8	8		≡° a.
3	30.7	20.5	95	58	8	9		
4	29.7	19.1	94	74	8	9		
5	29.5	21.6	95	85	9	8	1	d p.
6	29.8	21.8	91	60	4	8		
7	30.2	21.2	86	68	5	8		
8	30.5	16	98	64	8	8		
9	32	19.4	98	59	9	8		
10	31	17.9	98	61	10	8		
11	31.2	20	96	63	8	9	.3	d p.
12	28.2	21.1	95	75	10	10		
13	31.5	19.5	95	63	5	9		
14	30.4	16.5	96	54	6	7		
15	30.5	17	96	61	4	6		
16	31	16.7	96	65	4	8		
17	30.4	16.7	98	52	3	7		
18	30.5	15.2	96	57	6	8		
19	30.6	16.8	96	58	8	8		
20	31.3	21.1	88	51	7	7		
21	31.5	15.5	95	49	5	8		
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
Mean		18.4	95.1	61	6.6	8		
Total	30.7						[b] 1.3	

BATANGAS.
[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.3	20.2	91	44	1	6		
2	32.8	20.3	89	54	6	6		
3	30.4	21	90	56	6	7		
4	32.4	21.3	86	51	7	6	6.9	
5	29.2	22.1	93	82	10	10	5.3	d a. p.
6	32.4	20	86	49	3	3	2	d p.
7	31	20	93	50	7	5		
8	32.5	20.4	84	49	6	5		
9	33.4	20	91	60	7	7		
10	29.5	19	94	65	3	9	.5	p p.
11	30.5	22	90	67	7	9	6.1	● p.
12	31.4	22.1	91	70	5	7		
13	33	21.1	92	50	5	6		
14	32.6	20.4	89	51	3	7		
15	32.3	18.6	90	47	5	3		
16	32.8	19.7	82	48	1	5		
17	32.7	21	93	52	5	4		
18	32.6	19.2	92	49	1	5		
19	32.8	20.4	92	50	5	6		
20	33.2	21.1	88	47	7	6		
21	31.5	19.2	89	58	6	9	.5	p p.
22	31.3	18.2	94	50	3	7		
23	32.6	17.6	85	45	1	1		
24	33.4	17.7	89	50	1	5		
25	33.8	19	91	45	1	1		
26	33.6	18.3	90	39	3	3		
27		19.2	91	42	4	7		
28	33	21.3	82	43	6	4		
29	31.8	17.7	90	53	1	6		
30	29.4	17.2	90	82	3	10	5.8	● p.
31	30.8	20.6	89	66	9	7		
Mean	32.1	19.9	89.5	53.7	4.5	5.9		
Total							27.1	

[a] 25 days of observation.

[b] 21 days of observation.

Meteorological data for third and fourth class stations—Continued.

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.5	18.5	98	69	10	8	------	d a.
2	29.7	17.1	98	70	8	8	3.3	☊ ≡ ●° a.
3	29.1	18.8	97	67	2	6	------	
4	29.5	17.6	98	68	10	8	27.1	≡ a. ●° a. p.
5	28.1	17	98	74	10	10	8.4	●° a. p.
6	28	18.4	98	70	5	7	------	
7	29.2	18	98	69	10	8	------	☊ ≡ d a.
8	28.5	17.7	98	70	10	8	4.6	●° a.
9	28.2	18.1	98	70	2	2	------	
10	28.8	17.5	98	68	7	8	2.5	d ●° p.
11	28	17.2	98	69	5	8	4.3	●° p.
12	28.5	16.5	98	70	10	8	6.4	●° a. p.
13	27.7	17.6	98	68	7	8	------	p° p.
14	29.5	18.1	97	65	2	5	------	
15	30.2	18.9	97	66	3	7	------	☊ ≡ a.
16	30.4	18.8	98	64	4	7	------	
17	30.8	19.4	97	65	7	6	------	☊ ≡ a.
18	30.3	18.5	98	67	2	2	------	
19	30.7	18.2	98	65	5	8	------	☊ ≡ a.
20	31.3	19.4	98	67	2	9	------	
21	30.4	19.6	98	64	2	2	------	
22	31.2	20	98	63	7	8	------	
23	31.4	20.3	98	63	2	5	------	≡ a.
24	31	20	98	62	4	7	------	☊ ≡ a.
25	31.6	20.2	97	62	10	5	3	●° a.
26	30.2	20.3	98	64	2	2	------	
27	30.7	20.5	98	64	7	5	------	≡ a.
28	31.4	20.3	97	63	4	8	1.5	☊ ≡ ●◠ a.
29	31	20.3	98	64	2	7	------	
30	31.2	19.4	97	61	6	8	4.3	d a. ●° p.
31	30.5	18.8	98	64	10	5	2.3	●° a.
Mean	29.9	18.7	97.8	66.3	5.7	6.5	------	
Total	------	------	------	------	------	------	67.7	

SANTA CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	19.1	97	60	3	4	0.5	≡° ☊ a.
2	29.7	20	98	62	5	7	------	d a. ◡ p.
3	29.2	21.2	90	64	7	8	------	
4	28.7	21.3	92	88	10	8	21.5	d² a. ◠² ●° p.
5	28.3	21.6	96	71	10	8	.5	●° a. ◠ p.
6	29.4	21.6	89	61	7	6	------	
7	28.7	22	88	65	8	7	.5	d° p.
8	29.5	20.8	94	67	10	7	.6	◠ d° a d p.
9	30.6	21	96	63	7	4	------	
10	28.7	19.4	99	75	4	9	.8	≡ ☊² d a.
11	29.5	20.9	97	71	7	7	------	≡° ☊ a.
12	27.7	22.3	93	86	10	8	5.3	d a.
13	30	23	86	63	6	7	------	
14	27.6	21.6	95	65	7	7	------	◠ a.
15	29.3	19.9	95	65	8	5	1	d p.
16	29.8	20.1	98	62	3	5	------	d² a.
17	29.6	19.9	99	64	6	6	------	≡° ☊² a.
18	30.4	18.5	98	60	4	5	------	≡° ☊² a.
19	29.5	19	100	87	4	9	.8	≡ ☊² a. p d° p.
20	28.6	20.7	90	68	6	8	------	☊° a.
21	29.8	19.6	98	82	7	9	.8	≡° ☊ a. d² p.
22	28.9	19.1	94	52	3	5	------	☊° a.
23	30	17.4	97	52	3	3	------	≡° ☊ a.
24	30.4	18.5	97	55	1	4	.3	≡° ☊ a.
25	30.5	20.7	96	53	7	4	------	d° ◠ a.
26	30	18.6	97	54	7	4	------	≡° ☊ a.
27	27.1	20.7	86	75	7	8	.5	d° a.
28	29.6	20.3	97	66	9	7	.8	≡° ☊◠ d° a.
29	30.1	17.7	98	57	3	4	.8	☊ a.
30	27.2	20.2	99	88	7	9	2.8	d a. d² p.
31	28.2	20.9	98	70	9	8	.3	d° a.
Mean	29.3	20.2	95.1	66.8	6.3	6.5	------	
Total	------	------	------	------	------	------	37.8	

ANTIPOLO.

[ϕ=14° 36′ N; λ=121° 10′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33	18.6	81	49	3	8	------	☊ a.
2	33.4	18.6	80	43	6	5	------	☊° p° a.
3	32.2	19.6	78	47	5	8	------	
4	31.4	19.6	82	70	8	10	3.3	◠° ●° p.
5	31.4	20.7	86	55	4	4	------	☋ a.
6	33.4	19.2	92	46	2	3	------	☊² a.
7	31.1	20	87	45	2	3	------	
8	28.9	19.7	85	66	8	8	------	p° a.
9	32.4	18.5	86	50	3	3	------	
10	29.4	18.6	95	94	6	9	2	p° a. ●° p.
11	30.5	21	93	92	8	8	3.3	◠ a. ●° p.
12	29.3	20.7	96	66	9	8	10.4	☊² a. d a. p.
13	31.6	21	96	63	9	7	------	●◠ a.
14	31.6	20.4	88	57	2	8	------	
15	32.9	19	91	47	4	5	------	☊ a.
16	33.4	18.4	85	50	3	2	------	☊° a.
17	33.8	18.9	86	46	2	2	------	☊ a.
18	33	18.7	85	44	2	2	------	☊° a.
19	33	19.6	85	50	3	8	------	☊° a.
20	31.4	19.7	78	55	7	5	------	
21	31.8	18.4	90	62	2	8	------	☊° a.
22	31.8	18.6	81	52	2	7	------	
23	32.7	17.4	86	34	2	3	------	☊ a.
24	32.9	17.6	77	48	2	3	------	☊° a.
25	31.8	18.3	86	47	4	4	------	
26	31.6	17.9	70	48	1	3	------	☊ a.
27	29.3	18.2	79	65	8	9	------	p p.
28	32.6	19.6	82	44	3	6	------	
29	31.6	18.2	86	74	1	7	2.8	☊ a. ●° p.
30	30.2	19.9	91	75	10	9	------	d a. p.
31	30.3	19.9	91	61	8	7	------	☊° a. p° p.
Mean	31.7	19.2	85.6	56.2	4.5	5.9	------	
Total	------	------	------	------	------	------	21.8	

IBA.

[ϕ=15° 20′ N; λ=119° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	16.6	90	65	2	4	------	◡° p.
2	31.3	19.4	96	61	10	9	------	≡° a.
3	29.7	18.5	96	70	8	10	------	≡° a. ◠ a. p. ◡ p.
4	30	23	80	77	10	10	------	d p° a. p.
5	31.5	21.5	79	59	4	3	------	
6	30.8	17.7	90	62	6	2	------	
7	31.7	17.5	90	64	2	8	------	
8	30.4	19.1	86	64	3	9	------	☊° a. d p.
9	29.8	17.9	96	58	3	3	------	≡° a.
10	30.5	18.7	96	64	2	8	------	☊ ≡° a. ≤ p.
11	31	22.6	91	62	10	9	------	
12	30.7	20	96	67	5	8	2.4	☊ ≡° a. d a. p.
13	31.9	20.1	97	64	10	10	------	d° a.
14	30.5	20.5	95	59	5	3	------	≡° a,
15	30.7	19.2	97	64	3	5	------	☊ ≡ a.
16	30	19.1	96	66	2	3	------	☊ ≡° a.
17	30.8	18.5	96	61	3	2	------	☊² ≡° a.
18	30.7	18.8	96	62	5	2	------	☊ ≡° a.
19	31	18.4	95	64	2	5	------	☊ ≡° a. ∞ p.
20	31.5	18.5	89	58	4	4	------	
21	30.4	17.1	94	60	2	3	------	☊° a.
22	33	18.6	75	53	2	2	------	
23	30.8	15.5	90	52	1	3	------	☊ a.
24	30.5	15	84	49	1	1	------	☊² a.
25	30.3	13.9	96	52	1	3	------	☊ ≡° a.
26	30.5	17	92	55	3	2	------	
27	31	16.3	93	50	1	4	------	☊° a.
28	31.5	17.5	94	58	4	3	------	○○ p.
29	29.9	17.5	95	58	5	3	5.5	≡° a. ●° ◠ p.
30	29.5	19.5	98	67	6	10	1.8	≡ a. d ●° ◠² p.
31	29.5	19.7	88	67	10	7	------	d p.
Mean	30.7	18.5	91.8	61	4.4	5.1	------	
Total	------	------	------	------	------	------	9.7	

Meteorological data for third and fourth class stations—Continued.

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33	19.6	89	52	2	4	------	☊ a.
2	32.8	21.4	91	52	8	9	------	☊ a.
3	32	19	95	53	6	9	------	☊ ≡° a.
4	31	22	82	66	10	10	------	☊ a.
5	33	20.6	78	56	8	7	------	☊ a.
6	32.5?	18.9	95	47	2	2	------	☊ ≡° a.
7	32.6	17.8	95	64	7	8	------	☊ ≡° a.
8	30.3	19.6	88	60	4	9	------	☊ a.
9	32.6	17	90	47	2	2	------	☊ a.
10	33	22	90	54	10	10	19.8	● p.
11	32.5	21.8	95	54	9	8	2	☊ ≡° a. ●° p.
12	32.5	20	93	69	8	9	------	☊ a.
13	32.2	21.7	84	54	9	9	------	☊ a.
14	32.6	20.2	96	52	3	4	------	☊ ≡° a.
15	32.7	19.6	93	53	3	3	------	☊ ≡° a.
16	33.6	18.7	95	43	2	2	------	☊ ≡° a.
17	33.5	20.1	89	45	3	3	------	☊ a.
18	33.6	18.8	92	47	10	3	------	☊ a.
19	34	19.6	96	44	2	7	------	☊ ≡° a.
20	32.7	18	92	46	3	4	------	☊ a.
21	33	17.4	93	44	2	3	------	☊ a.
22	32.3	18.4	95	48	2	3	------	☊ ≡° a.
23	32.5	16.4	94	43	1	2	------	☊ a.
24	33	16.2	93	41	2	2	------	☊ a.
25	32.2	16.5	95	47	1	2	------	☊ ≡° a.
26	33.7	16.5	89	34	3	2	------	☊ a.
27	33.5	16.7	91	47	3	9	------	☊ a.
28	33.7	17.6	93	38	7	9	------	☊ a.
29	34	18.5	89	47	1	9	------	☊ a.
30	33.4	19.2	95	46	4	10	2	☊ ≡° a. d p.
31	34.9	21	92	48	9	10	------	☊ a.
Mean	32.9	19.1	91.5	49.7	4.7	5.9	------	
Total	------	------	------	------	------	------	23.8	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.1	21.5	96	71	3	10	8.9	☊ ≡° ● a. d ● p.
2	29	21.7	96	78	10	9	.8	☊ ☊ ≡° ◠ a. ● p.
3	27.1	22.7	95	83	10	10	23.9	☊ a. d a. p. ● p.
4	25.7	21.8	96	97	10	10	32.3	● a. p.
5	28.8	23.1	83	75	10	1	------	☊ ↩ p.
6	29	21.3	94	77	10	1	------	☊ d a.
7	28.3	20.5	91	74	10	1	13.2	d a. p.
8	24.6	22	93	95	10	10	17.6	● a. p. d p.
9	28.1	21	97	80	10	1	------	☊ ≡ a.
10	27.2	21.4	96	76	10	10	1.8	☊ ≡° a. ● p.
11	28.2	20.5	96	83	10	9	12.2	☊° ≡° a. d ● p.
12	25.2	22.7	91	95	10	10	38.6	● a. p.
13	24.7	21.8	97	96	10	10	30.3	● a. p.
14	27	21.5	98	82	10	1	1	☊ ≡ ● a.
15	28.3	20	98	76	10	1	------	☊² ≡ a.
16	29.1	19	98	77	10	2	------	☊² ≡ a.
17	28.7	19.8	96	78	10	1	9.9	☊° ≡° a. ● p.
18	28.2	22.3	96	81	10	1	------	☊ ≡° a.
19	28.8	21.8	96	78	10	1	------	☊° ≡° ◠² a. d p.
20	28.1	19.3	96	78	10	9	1	☊² ≡° a. ● p.
21	27	21	97	80	10	6	4.3	● a. p. ◠ p.
22	26.4	18.3	98	74	10	8	2.8	☊² ≡ a. ● a. p.
23	28	18.3	95	65	10	1	------	☊² ≡° a.
24	28.4	17.3	94	66	10	0	------	☊² a.
25	26.6	18.9	95	80	10	10	.5	☊° ≡° d² a. d p.
26	28.5	18.1	96	65	10	0	------	☊° ≡° d ◠° a.
27	28.6	18	97	65	10	1	1.8	☊ ≡ a. ● p.
28	29.2	20.3	95	62	10	1	------	
29	28.9	18.7	93	68	10	2	------	☊° a. d p.
30	28.7	21.3	92	75	10	10	------	☊ a. d p.
31	30.2	20.9	90	70	10	10	------	☊ a.
Mean	27.9	20.5	94.9	77.4	9.8	5.1	------	
Total	------	------	------	------	------	------	200.9	

SAN FERNANDO, UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.3	19	94	68	10	8	------	☊° a.
2	30.2	20	92	66	10	0	------	
3	29.9	20.6	94	70	10	10	------	d° p.
4	31.4	23.5	81	62	10	9	------	
5	30.7	20.2	94	58	10	0	------	☊° a.
6	30.1	19.8	95	71	10	0	------	☊° a.
7	30.3	19.2	93	62	10	1	------	☊° a.
8	30.9	19.6	93	64	10	9	------	☊° a.
9	32.3	20.4	90	50	10	1	------	
10	29.7	21.4	87	67	10	7	------	
11	30.3	22.2	91	72	10	1	------	
12	30.6	20.9	96	65	10	0	------	☊° ≡° a.
13	31.3	21.5	92	66	10	1	------	☊° a.
14	30.9	20.2	94	64	10	1	------	☊° a.
15	31.8	21.7	90	56	10	1	------	☊° a.
16	30.9	21.2	88	63	10	0	------	
17	31.8	22.7	78	54	10	0	------	
18	31.2	20.6	92	62	10	0	------	
19	30.3	21.4	91	65	10	0	------	
20	31.9	20.4	88	52	8	8	------	
21	29.7	19	93	64	10	1	------	☊° ≡° a.
22	30.4	17.8	96	55	10	0	------	
23	30.9	18	85	52	10	0	------	
24	30.9	17.8	87	56	10	0	------	☊ a.
25	30.1	17.2	92	61	10	0	------	☊° a.
26	30.9	19	82	56	4	1	------	
27	30.1	17.7	90	62	10	1	------	☊° a.
28	29.7	20	85	63	10	6	------	
29	30.2	18.8	92	62	10	5	------	☊° a.
30	30.8	20	91	60	4	6	------	☊° a.
31	29.9	20	92	64	4	2	------	
Mean	30.7	20.1	90.3	61.7	9.4	2.5	------	
Total	------	------	------	------	------	------	------	

ECHAGUE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	19.1	98	54	9	3	0.3	☌ p.
2	30.2	19.2	96	64	10	6	4.4	●° d° a.
3	24.6	21.7	97	97	10	10	4.3	d° ● a. d p.
4	29.1	20.4	98	87	10	9	1.5	d° a. p. ●° p.
5	29.8	20.4	98	58	10	4	------	≡ ☊ a.
6	30.4	17.7	98	54	7	3	.5	≡ ☊ a. ☌ d° p.
7	28.4	20	97	63	10	6	1.6	◠ a. d a. p.
8	28.6	19.8	97	72	10	10	.3	◠ a. d° a. p.
9	31.4	20.3	99	54	9	4	------	≡ ☊ a.
10	26	19.6	95	74	10	9	.3	d° a.
11	28.9	19.6	98	68	10	3	------	
12	28.5	20.7	95	75	10	9	.5	d° p.
13	29.3	20.5	98	68	6	8	------	
14	34.5	19.6	95	55	1	4	------	
15	31.3	21.6	93	55	10	3	------	
16	32	18.6	94	48	0	1	------	
17	32.1	21	91	61	10	7	------	
18	32.2	20.3	93	50	4	3	------	
19	30.6	20.3	94	45	10	4	------	☊² a.
20	30.3	17.3	96	46	2	6	------	≡° ☊ a.
21	30.9	16.1	98	42	6	6	------	≡ ☊² a.
22	31.2	16.5	98	48	2	8	------	☌ p.
23	30.6	14.1	94	43	0	1	------	☊² a. ☌ p.
24	31.7	13.5	94	42	0	0	------	☊² a. ☌ p.
25	30.3	14.3	98	54	0	9	------	≡ ☊ a. d° p.
26	31.6	16.8	96	49	2	3	------	≡° a. ☌° p.
27	30.3	15.3	95	57	1	2	------	≡° a. ☌ p.
28	25.1	18.6	95	89	10	10	2.8	d° a. p. p° p.
29	26	19.3	98	80	10	10	2.1	d° a. p. ●° p.
30	25.5	18.8	95	74	10	10	------	
31	26.5	18.4	94	73	10	9	2.5	d° p.
Mean	29.7	18.7	96	61.3	6.7	5.8	------	
Total	------	------	------	------	------	------	21.1	

Meteorological data for third and fourth class stations—Continued.

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.8	20.5	89	68	0	3	.....	☊² a. ☋ p.
2	29.9	21	87	64	4	0	.....	☊² a.
3	28.2	21.7	88	77	5	10	.....	☊ a. d ☋ p.
4	28.3	21.5	86	80	7	9	.....	☊ a. ◠ d p.
5	29.9	20.6	89	72	0	1	.....	☊² a.
6	29	20.7	87	64	4	1	.....	☊² a.
7	28.9	21	86	70	0	0	.....	☊² a.
8	27.7	20.7	84	76	3	9	6.4	☊² a. d p.
9	27.9	23.5	91	71	4	4	.....	p a. d p.
10	28.8	21	90	70	5	3	.....	☊ a. ☾ p.
11	28.8	22.4	89	71	6	3	.....	☊ a.
12	28.7	21.5	91	74	4	0	.....	☊² a.
13	28.9	22	90	79	3	7	.....	☊² a.
14	28.8	22	91	75	2	4	.....	☊² a.
15	28.5	20.9	89	77	1	2	.....	☊² a.
16	28.8	20.7	90	69	4	2	.....	☊² a.
17	28.8	20.6	89	75	3	2	.....	☊² a.
18	29.3	22	89	74	1	0	.....	☊² a.
19	29	21.5	91	55	1	1	.....	☊² a.
20	28.7	21.5	78	63	7	8	.....	☊ a.
21	28.8	21.1	87	62	6	1	.....	☊₂ a.
22	28.3	19.5	84	63	0	2	.....	☊ a.
23	28.2	19.4	80	63	0	2	.....	☊ a.
24	28.2	19.4	82	59	0	0	.....	☊ a.
25	29	18.5	82	42	3	0	.....	☊² a.
26	28.7	18.9	77	58	1	0	.....	☊² a.
27	28.4	18.8	78	62	2	0	.....	☊ a.
28	28.5	18.8	79	54	0	9	.....	☊² a.
29	29.2	18.8	72	62	0	7	.....	☊² a.
30	29.9	22	68	51	4	3	.....	☊ a.
31	29.9	22	66	56	5	2	.....	☊ a.
Mean	28.8	20.8	84.5	66.3	2.7	3.1	.....	
Total	.....	.....	.....	.....	.....	.....	6.4	

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.5	20	97	65	0	2	.....	☊² ≡ a.
2	32.3	20.1	97	61	0	2	.....	☊² ≡ a.
3	32.4	22.9	88	56	1	2	.....	
4	33.1	20.5	95	52	2	3	.....	☊² ≡° a.
5	32.2	19.5	95	65	0	2	.....	☊² ≡° a.
6	31.2	19.1	95	55	0	0	.....	☊² ≡° a.
7	32.3	17.5	97	43	0	1	.....	☊² ≡ a.
8	30.8	19.6	87	54	0	1	.....	☊² a. d° p.
9	30	21.3	86	96	9	10	6.4	● d p.
10	30.9	20.5	91	58	5	5	.....	
11	31.5	20.4	94	67	3	3	.....	☊ a.
12	31	19	91	71	0	1	.....	☊² a.
13	30	20.4	94	61	0	0	.....	☊² a.
14	30.5						.....	
15	31	19.6	97	54	0	0	.....	☊² ≡ a.
16	31.4						.....	
17	31.7	19.6	95	58	0	1	.....	☊² ≡° a.
18	30.8	19.7	94	59	0	1	.....	☊ a.
19	31.3	16.9	97	49	0	0	.....	☊² ≡ a.
20	30	16.5	93	57	0	2	.....	☊² a.
21	30.1	18.3	96	58	0	1	.....	☊² ≡° a.
22	29.9	18.2	95	64	0	2	.....	☊² ≡° a.
23	30.2	18.1	91	50	0	0	.....	☊² a.
24	30	18.5	89	57	0	0	.....	☊² a.
25	30.9	18.3	96	56	0	0	.....	☊² ≡° a.
26	31	16.6	91	45	0	2	.....	☊² a.
27	31.7	18	90	56	0	8	.....	☊² a.
28	27.5	20.8	84	58	10	10	.3	d° a.
29	28.4	21	84	54	10	9	.....	
30	28.7	21.2	76	55	8	7	.....	
31	32.5	21	86	45	6	4	.....	
Mean	30.8	19.4	91.8	57.9	1.9	2.7	.....	
Total	.....	.....	.....	.....	.....	.....	[a]6.7	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.5	20.5	86	80	4	4	4.6	◠ d² a. ☊² p.
2	22.4	19.4	87	81	10	10	24.6	● d a. p.
3	21.9	17.9	92	78	10	8	3.5	● a. d a. p.
4	25.5	18.4	87	72	7	7	.....	d° p.
5	26.6	21	93	71	8	8	.....	
6	27.6	21	81	69	2	6	23.4	d° a. ● d. p.
7	21.9	18.6	79	81	10	10	1.2	d a. p.
8	24	18.6	74	76	10	10	.7	d° a.
9	25.8	19.5	86	80	8	10	11	● a. p. ↙° d p.
10	21.6	17.6	83	78	10	10	3.5	d² ◠ a. ● a. p.
11	22.6	19.3	73	74	10	10	1	●° d° a.
12	25.3	19.3	82	77	8	10	11.7	● p.
13	23.2	19.3	92	86	8	10	26.2	● a. d ●° a. p.
14	24.7	18.6	86	78	7	4	.3	d° a. ●° p.
15	26.5	19.6	79	82	4	8	.8	
16	24.4	18.6	94	83	7	8	3.3	● ◠ a. d° a. p.
17	24	18.6	89	79	8	5	3	●° ◠ a. d a. p.
18	24.8	18.5	94	79	3	3	.....	●° ◠ d° a. ☊ p.
19	24.1	17.7	93	91	2	10	27	●° a. d a. p. ● p.
20	22.2	18.6	96	80	10	10	12.9	● d° a.
21	24.1	18	89	75	7	10	1.7	● d a.
22	26.4	19.4	84	76	4	3	2.3	● a.
23	27.1	21.5	84	67	3	1	.....	☊ p.
24	27.6	16.6	90	72	0	1	.....	☊ a. ☊² p.
25	26.4	17.8	88	72	10	6	.....	☊² p.
26	25.4	17.5	87	80	7	7	14	● p.
27	23.5	18.3	81	86	9	10	7	d² ◠ a. p. ● p.
28	22.5	18.6	77	74	8	8	1.5	● p.
29	21.8	17.4	71	81	10	10	19.8	● a. p.
30	20.4	16.1	82	81	9	10	16.8	↙° d a. p. ● p.
31	23.2	16.6	85	74	8	7	11.6	d a. ● a. p.
Mean	24.4	18.7	85.3	77.8	7.1	7.5	.....	
Total	.....	.....	.....	.....	.....	.....	233.4	

[a] 29 days of observation.

SEISMOLOGICAL BULLETIN FOR JANUARY, 1912.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

9, $20^h\ 29^m$ [10, $4^h\ 29^m$]. **Butuan** (N of Mindanao). Oscillatory earthquake; direction NNE–SSW, intensity II–III, duration 2 seconds.

10, $10^h\ 6^m\ 48^s$* [10, $18^h\ 6^m\ 48^s$]. **Nueva Caceres** (SE of Luzon). Earthquake of intensity III, felt in the central and eastern parts of Camarines Province.

11, $14^h\ 14^m$ [11, $22^h\ 14^m$]. **Cebu and Leyte.** Earthquake of intensity III whose epicenter was probably between these two islands, near 124° 7′ longitude east and 11° latitude north. It was felt with the force mentioned in northwestern Leyte and northern Cebu.

17, $18^h\ 39^m\ 47^s$* [18, $2^h\ 39^m\ 47^s$]. **Aparri** (NE of Luzon). Oscillatory earthquake; direction E–W, intensity IV, duration 6 seconds.

18, $3^h\ 28^m\ 32^s$* [18, $11^h\ 28^m\ 32^s$]. **Southern Luzon and northern Mindoro.** Earthquake of force IV. Its epicenter lay in the eastern part of the strait which separates Luzon and Mindoro. As the disturbance nowhere passed intensity IV, its extension may be considered as extraordinary, since it was felt throughout southern Luzon, in the Provinces of Bataan, Bulacan, Rizal, La Laguna, Cavite, Batangas, Tayabas, as well as over a large part of Mindoro Island, giving an area of some 250 kilometers in length and as many in width. At the stations closest to the epicenter, viz., those in southern Batangas and northeastern Mindoro, a repetition of force III was felt at $7^h\ 36^m\ 29^s$* [$15^h\ 36^m\ 29^s$].

19, $15^h\ 24^m$ [19, $23^h\ 24^m$]. **Batangas** (S of Luzon). Oscillatory earthquake; direction SE–NW, intensity II–III, duration 3 seconds. Although this earthquake has been reported as having been perceived only in the vicinity of Batangas, it seems to have originated in the same center as those of the 18th; the direction of the seismic waves reported from the station at Batangas is identical with that observed on the former occasion.

22, $3^h\ 6^m$ [22, $11^h\ 6^m$]. **Atimonan** (SE of Luzon). Earthquake of intensity II.

24, $12^h\ 35^m$ [24, $20^h\ 35^m$]. **Virac** (Catanduanes). Oscillatory earthquake; direction N–S, intensity III, duration 8 seconds. A few moments later were felt two repetitions of force II.

25, $10^h\ 10^m$ [25, $18^h\ 10^m$]. **Butuan** (N of Mindanao). Oscillatory earthquake; direction ENE–WSW, intensity II–III, duration 2 seconds.

26, $17^h\ 57^m\ 53^s$* [27, $1^h\ 57^m\ 53^s$]. **Northeastern Mindanao.** Earthquake of intensity V–VI. The epicenter appears to have been southeast of Butuan Bay. At the station

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in Greenwich mean time (midnight=0^h), Insular time being added in brackets for the convenience of Philippine readers.

of Butuan strong oscillations from east-northeast and northeast were observed which lasted some 20 seconds; while at Surigao, at the northeastern end of the island, the movements had only intensity III–IV. In Cagayan Province, at a distance of about 100 kilometers toward west-southwest, only a few people noticed oscillations of intensity II. The disturbance was registered by the seismographs at Manila, Baguio, and Zikawei.

29, $19^h\ 2^m$ [$30, 3^h\ 2^m$]. **Butuan** (N of Mindanao). Oscillatory earthquake; direction ENE–WSW, intensity III, duration 10 seconds.

30, $19^h\ 16^m$ [$31, 3^h\ 16^m$]. **Northeastern Mindanao.** Earthquake of force IV which originated in the same center as those of the 26th and 29th. The area shaken extended somewhat further north than that of the disturbance of the 26th, since the quake was felt at Tacloban, Leyte, at a distance of about 250 kilometers. The fact that on this occasion nothing was perceived at Cagayan and other stations must be ascribed partly to the small intensity and partly to the unfavorable hour.

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Mean Greenwich. Midnight=0 h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T_0=7; ϵ=3.6. A_E: T_0=7; ϵ=3. 2.40 meters above sea level. Alluvium.]

No.	Date.	Character.	Phase.	Greenwich mean time.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
1	1	I_d	eP	6 46 33				
			F	48 00				
2	2	I	eP	6 10 48				
			F	41 00				
3	4	I_u	eP	15 57 14				
			cS	16 05 23	5–6			
			L	14 38				
			F	56 00				
4	6	I_d	eP	11 17 02				
			iL	17 15				
			F	19 00				
5	6	I_d	eP	11 20 46				
			eL	20 59				
			F	23 00				
6	8	I_d	eP	5 34 46				
			iL	35 16	2–3			
			M_N	35 18	2–3	18		
			M_E	35 18	2–3		16	
			F	38 00				
7	8	I	eP	14 59 47				
			F	15 07 00				
8	10	I_v	eP	10 06 48				Earthquake III in Camarines.
			F	08 00				
9	16	I_d	eP	22 18 26				
			eL	18 35				
			F	19 00				
10	17	I_d	eP	2 31 13				
			iL	31 30				
			M_N	31 44	4	42		
			F	36 00				
11	17	I_v	eP	18 39 47				Earthquake IV at Aparri (NE of Luzon).
			eL	40 30				
			M_N	40 48	3–4	18		
			M_E	41 07	2–3		7	
			F	44 00				
12	18	I_v	iP	3 28 32	2			Earthquake IV, S Luzon and N Mindoro.
			iL	28 47				
			C_1	32 27	4	337		
			C_1	32 38	5		224	
			C_2	33 18	3–4	307		
			F	52 00				

Records of the microseismograph—Continued.

No.	Date.	Character.	Phase.	Greenwich mean time.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
13	18	I_v	eP	7 36 29				Earthquake III, S Luzon and N Mindoro.
			iL	36 44	3			
			M_E	36 49	5		90	
			F	41 00				
14	18	I_d	eP	21 15 56				
			iL	16 09				
			F	19 00				
15	19	I_d	iL	1 34 56				
			F	38 00				
16	19	I_d	e	10 35 04				
			F	38 00				
17	19	I_d	eP	10 50 08				
			M_N	50 38	3	12		
			F	54 00				
18	20	I_r	eP	4 07 01				
			F	55 00				
19	20	I_d	eP	17 15 39				
			L	16 15	4-5			
			M_N	16 23	3-4	214		
			M_E	16 25	5		116	
20	20	I_d	i	17 19 00				
			F	23 00				
21	20	I_d	e	17 25 40				
			F	28 00				
22	22	I_d	eP	13 10 37				
			iL	11 59	2			
			M_N	12 46	3	10		
			F	17 00				
23	25	I_d	eP	22 53 36				
			iL	53 54				
			M_N	53 57	2	36		
			F	56 00				
24	26	I_d	e	2 39 14				
			F	43 00				
25	26	I_r	eP	14 43 30				
			eL	55 51				
			M_N	15 00 05	11	6		
			M_E	00 30	12		4	
			F	25 00				
26	26	I_v	eP	17 57 53				Earthquake III, NE Mindanao.
			M_N	18 00 42	6	16		
			M_E	01 00	6-7		10	
			F	15 00				
27	28	I_r	e	1 32 12				
			F	50 00				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

9, $20^h\ 29^m$ [10, $4^h\ 29^m$]. **Butuan** (N de Mindanao). Temblor oscilatorio; dirección NNE–SSW, intensidad II–III, duración 2 segundos.

10, $10^h\ 6^m\ 48^s$* [10, $18^h\ 6^m\ 48^s$]. **Nueva Caceres** (SE de Luzón). Temblor de tierra de intensidad III, sentido en la parte central y oriental de la provincia de Camarines.

11, $14^h\ 14^m$ [11, $22^h\ 14^m$]. **Cebú y Leyte.** Temblor de tierra de intensidad III. Su epicentro se hallaba probablemente entre estas dos islas, cerca de los 124° 7′ long. E y 11° lat. N. Sintióse con la intensidad indicada en la parte NW de Leyte y parte N de Cebu.

17, $18^h\ 39^m\ 47^s$* [18, $2^h\ 39^m\ 47^s$]. **Aparri** (NE de Luzón). Temblor oscilatorio; dirección E–W, intensidad IV, duración 6 segundos.

18, $3^h\ 28^m\ 32^s$* [18, $11^h\ 28^m\ 32^s$]. **S de Luzón y N de Mindoro.** Temblor de tierra de intensidad IV. Su epicentro se hallaba en la parte E del estrecho que separa Luzon de Mindoro. Siendo así que en ninguna parte pasó de intensidad IV, su extensión puede considerarse como extraordinaria, puesto que fué perceptible en todas las provincias del S de Luzón, Bataan, Bulácán, Rizal, La Laguna, Cavite, Batangas, Tayabas, y en gran parte de la isla de Mindoro: lo cual representa un área de 250 kilómetros de longitud por otros tantos de anchura. En las estaciones del S de Batangas y NE de Mindoro más cercanas al epicentro, se experimentó una repetición de intensidad III á $7^h\ 36^m\ 29^s$* [$15^h\ 36^m\ 29^s$].

19, $15^h\ 24^m$ [19, $23^h\ 24^m$]. **Batangas** (S de Luzón). Temblor oscilatorio; dirección SE–NW, intensidad II–III, duración 3 segundos. Este temblor aunque solamente se sintió en las cercanías de Batangas, parece sin embargo que procedía del mismo epicentro de los temblores del día 18; la dirección de los movimientos séismicos en la estación de Batangas fué también la misma observada en aquella fecha.

22, $3^h\ 6^m$ [22, $11^h\ 6^m$]. **Atimonan** (SE de Luzón). Temblor de tierra de intensidad II.

24, $12^h\ 35^m$ [24, $20^h\ 35^m$]. **Virac** (Isla Catanduanes). Temblor oscilatorio; dirección N–S, intensidad III, duración 8 segundos. Momentos después se percibieron dos repeticiones de intensidad II.

25, $10^h\ 10^m$ [25, $18^h\ 10^m$]. **Butuan** (N de Mindanao). Temblor oscilatorio; dirección ENE–WSW, intensidad II–III, duración 2 segundos.

26, $17^h\ 57^m\ 53^s$* [27, $1^h\ 57^m\ 53^s$]. **NE de Mindanao.** Temblor de tierra de intensidad V–VI. El epicentro parece se hallaba al SE de la bahía de Butuan. En la estación de Butuan se experimentaron fuertes oscilaciones del ENE y NE, las cuales duraron unos 20 segundos. En Surigao, extremo NE de la Isla, no pasaron los movimientos sentidos de intensidad III–IV. En la provincia de Cagayán que dista más de 100 kilómetros al WSW, solamente algunas pocas personas notaron oscilaciones de intensidad II. Fué registrado por los seismógrafos de Manila, Baguio, y Zikawei.

29, $19^h\ 2^m$ [30, $3^h\ 2^m$]. **Butuan** (N de Mindanao). Temblor oscilatorio; dirección ENE–WSW, intensidad III, duración 10 segundos.

30, $19^h\ 16^m$ [31, $3^h\ 16^m$]. **NE de Mindanao.** Temblor de tierra de intensidad IV, procedente del mismo origen que los anteriores del 26 y 29. Su área de acción se extendió

[1] La intensidad de los terremotos se indica conforme a la conocida escala de De Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

algo más hacia el N que la del 26, pues fué sentido en Tacloban, isla de Leyte, que dista unos 250 kilómetros. El no haberse notado esta vez movimiento alguno en Cagayán y otras estaciones, debe atribuirse tanto á su poca intensidad como á lo intempestivo de la hora.

Registros de los Microseismografos.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

BULLETIN FOR FEBRUARY, 1912.

111232

METEOROLOGICAL BULLETIN FOR FEBRUARY, 1912.

By Rev. JOSÉ CORONAS, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—With a few exceptions in northern Luzon, the mean atmospheric pressure for February, 1912, works out moderately higher than that for the same month of the preceding year at all the stations. For Manila it differs from the latter value by +0.62 millimeter, and from the normal for the month by +0.17 millimeter. The highest pressures occurred generally on the 5th to 7th; the lowest on the 14th, 28th, and 29th.

The mean monthly temperature results in general slightly higher than that for February, 1911. The extreme temperatures for Manila were: 34.3° C on the 17th and 28th, and 17.6° C on the 10th.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS FOR FEBRUARY, 1912.

Station.	Pressure.						Temperature.					
	Mean.	Depart. from Feb. 1911.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Depart. from Feb. 1911.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	760.45		762.69	7	758.60	14	25.4		32.9	7,21		
Cebu	60.40	+1.32	62.86	7	58.43	14	26.5	+0.7	31.5	10,23,28	21	1,2
Iloilo	60.41	+1.06	62.99	7	58.73	29	26.4	+ .9	33.5	17	21	1,2
Ormoc	60.71	+1.46	62.98	7	58.72	14	25.5	+ .6	32.2	14	17.4	8
Tacloban	61.05		63.62	7	58.92	14	25.7	+ .1	32.1	13,29	20.6	8
Capiz	61.25	+1.17	63.72	7	59.39	28	26.2	+ .4	32.9	16	21	2
Calbayog	61.06	+1.54	63.54	7	58.83	14	25.3	+ .6	33.8	29	17.8	7
Legaspi	61.54	+1.51	63.95	6	59.49	14	26.1	+ .7	33.7	18	19.6	22
Atimonan	61.75	+ .78	64.05	6	59.88	14	25.7	+ .5	31.4	26	18.7	9
Paracale	62.01	+1.01	64.37	7	60.20	28	25.4	+ .2	30.6	14,16	19.4	9
Manila	61.46	+ .62	64.06	7	59.51	28	25.3	+ .5	34.3	17,28	17.6	10
San Isidro	61.70	+ .91	64.24	7	59.82	28	25.7	+ .9	35.8	17	17	4,14
Dagupan	61.15	+ .59	63.51	6	59.14	29	25.8	+ .2	36	25	18.7	4
Bolinao	61.19	+ .66	63.67	2	59.13	29	25.7	— .1	33.9	25	18.6	4,5
Baguio[a]	638.12	+ .65	639.80	6	636.78	14	17.2	+ .7	26.7	27	11.8	3
Vigan	761.43	+ .67	764.05	2	759.52	29	25.2	— .6	35.3	20	17.7	4
Tuguegarao	62.48	— .06	65.84	5	60	29	24.7	+1.6	36.3	28	17.5	8
Aparri	62.43	— .82	65.90	5	59.70	27	23.6	+ .6	32	25	18.6	5,7

[a] The barometric readings of this station are not reduced to sea level.

Precipitation.—As is shown by the following table, there were very few stations which reported a total rainfall in excess of the amount for February, 1911, and of the normal for the month corresponding to each station. Manila belongs to this class, since the amount recorded exceeds the total for the same month of the preceding year by 16.1 millimeters, and the normal for February by 13.9 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF FEBRUARY, 1912.

Station.	Total.	Departure from Feb., 1911.	Departure from normal.	Rainy days.	Departure from Feb., 1911.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from Feb., 1911.	Departure from normal.	Rainy days.	Departure from Feb., 1911.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*	*mm.*			*mm.*			*mm.*	*mm.*	*mm.*			*mm.*	
Jolo	69.4	.....	— 27.1	2	.....	65.8	29	Sumay, Guam	32.9	—254.5	.....	13	— 6	5.1	23
Isabela, Basilan	28.8	—123.4	.....	4	— 5	13.5	16	Calapan	55.2	— 42.2	.....	10	— 9	26.2	21
Zamboanga[a]	18.4	.....	.....	2	.....	9.7	28	Virac	150.6	—269.8	.....	18	— 3	45	20
Davao	65.9	— 81.1	— 88.7	3	— 5	26.8	5	Batangas	.5	— 74.3	.....	1	— 7	.5	21
Cotabato	25.6	+ 4.9	— 80.5	8	0	10.7	19	Atimonan	54.6	—176.8	— 79.8	15	— 5	13.7	1
Cagayan, Misamis	13.3	.....	.....	3	.....	11.2	25	Silang	22.3	— 21.4	.....	4	— 4	13.7	5
Butuan	150.6	—357.6	—112.6	21	+ 3	28.7	14	Paracale	144.5	—356.8	.....	17	— 6	35.6	21
Dumaguete	43.4	—138.1	.....	11	— 1	14.2	18	Sta. Cruz, La Laguna	35.2	— 47.1	.....	10	— 4	11.2	2
Yap, W. Carolines	65.9	—250	.....	15	— 5	22.1	12	Manila	24.6	+ 16.1	+ 13.9	6	0	7.9	6
Tagbilaran	156	+ 31.5	+ 42.6	9	— 3	72.4	10	Antipolo	30	+ 12.3	.....	4	— 2	22.9	17
Surigao	197.7	—172.5	—226.4	20	+ 3	29.5	14	Iba	3.8	— .2	.....	3	0	3	20
Maasin	189.1	—183.8	— 1.2	10	0	48.3	4	San Isidro	3.9	— 23.1	— 1.7	3	— 5	2.3	8
Cebu	33.8	— 72.4	— 38	11	— 2	21.6	14	Tarlac	18.5	— 11.7	+ 8.8	1	— 2	18.5	17
Iloilo	11.3	— 65.7	— 18.9	6	— 5	3.6	19	Baler	81.7	.....	.....	15	.....	36.1	8
San Jose Buenavista	1.8	.....	.....	2	.....	1.3	15	Dagupan	8.4	+ .7	— 12.4	2	— 2	7.6	6
Cuyo	0	0	.....	0	0	0	0	Bolinao	0	— 4.4	— 6.7	0	— 2	0	0
Ormoc	90.6	— 15.7	— 14.1	14	— 2	26.3	14	Baguio	2.9	— 34.8	— 11.3	2	— 5	1.6	1
Guiuan	229.5	.....	.....	17	.....	53.9	14	San Fernando, Union	0	— 2	— 7.1	0	— 2	0	0
Tacloban	142.1	—178	.....	16	— 6	35.6	10	Echague	10	— 69.8	.....	6	—13	3	19
Capiz	56.1	— 80.2	— 69.8	9	—12	23.8	23	Candon	0	— 5.8	.....	0	— 2	0	0
Borongan	250.7	—245.8	—196.7	23	+ 1	29.8	9	Vigan	0	— 1.7	— 2	0	— 2	0	0
Calbayog	198.6	—158.7	+ 20.2	15	— 5	48.1	19	Tuguegarao	0	— 52.7	— 20.9	0	— 3	0	0
Masbate	106.5	—135.6	.....	10	— 6	65.5	19	Laoag	0	0	.....	0	0	0	0
Romblon	88.3	.....	.....	17	.....	27	20	Aparri	56.1	—135.5	— 42.6	10	— 7	15.5	1
Laoang	355.9	.....	.....	25	.....	65.3	19	Santo Domingo, Batanes	133.9	+ 88.7	.....	13	0	65.9	7
Gubat	248.3	.....	.....	18	.....	70.6	20								
Legaspi	252.6	—125.8	— 63.7	18	— 3	86.3	20								

[a] 27 days of observation.

DEPRESSIONS AND TYPHOONS.

The month of February was characterized by the total absence of depressions worth mentioning, at least as far as concerns the Philippines. Our weather maps for February 1 showed indeed a depression, but it was far off, to the south of the Loochoos Islands, and moved toward northeast, being east of the Loochoos on the 2d and between Japan and the Bonin Islands during the night of February 2 to 3.

On the 12th and 13th there were indications of another slight and, consequently, unimportant depression over the northern part of the China Sea, between Luzon and Indo-China.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—Exceptuando unas pocas estaciones del norte de Luzón, todas las demás nos dan una media normal de la presión atmosférica bastante mayor que la de Febrero, 1911. La de Manila se diferencia de la del año pasado en +0.62 mm., y de la normal de Febrero, en +0.17 mm. Las presiones máximas del mes tuvieron lugar generalmente del 5 al 7, y las mínimas el 14, 28 y 29.

La temperatura media mensual es en general ligeramente mayor que la de Febrero del año pasado. Los valores extremos para Manila fueron: 34.3° C correspondiente a los días 17 y 28, y 17.6° C, correspondiente al día 10.

Precipitación acuosa.—Según verán nuestros lectores en la tabla de lluvia que acompaña el texto inglés, son bien contadas las estaciones que nos dan un total de lluvia mayor que en Febrero del año pasado y mayor también que la normal de este mes correspondiente a cada estación. Manila es una de dichas estaciones, toda vez que la cantidad de agua recogida en los pluviómetros del Observatorio Central se diferencia en +16.1 mm. del total del año pasado y en +13.9 mm. de la normal de Febrero.

DEPRESIONES Y TIFONES.

No hubo en todo el mes de Febrero depresión alguna que merezca apenas mencionarse, al menos por lo que toca a Filipinas. Nuestros mapas del tiempo del día 1 indicaban una depresión muy lejana al sur de las islas Liukiu o Loochoos, la cual se movió hacia el NE, hallándose al E de Liukiu el día 2, y entre Japón y las islas Bonin durante la noche del 2 al 3. Los días 12 y 13 hubo indicios de otra ligera depresión de poca importancia en la parte septentrional del Mar de China entre Luzón e Indochina.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[a]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure (mean).	Air temperature.[b] Mean.	Maximum.	Minimum.	Underground temperature. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity (mean).	Vapor pressure (mean).	Evaporation.[b] Free exposure (total).	Shelter (total).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	*Per ct.*	*mm.*	*mm.*	*mm.*
1	762.33	25.4	31.4	20.2	25.2	27.7	26	26.3	26.8	27.7	75.8	18	5	3.6
2	62.74	25.2	31.2	22	25.8	28.5	26.3	26.7	26.8	27.6	75.2	17.8	5.2	4.3
3	62.97	23.1	28.7	19.8	25.9	27	26.5	26.7	26.7	27.6	80.5	16.8	2.5	1.9
4	63.03	24.1	31.1	18.8	24.8	27.1	26.3	26.4	26.7	27.6	79.2	17.5	2.9	2.6
5	63.72	23.8	28.9	21.6	25.3	26.3	26.2	26.3	26.8	27.7	89.5	19.5	.4	1
6	63.90	23.7	28.4	21.1	25.2	25.8	26.1	26.1	26.8	27.7	86.1	18.7	.7	1.6
7	64.06	22.9	28.2	19.4	24.7	25.9	25.9	26	26.7	27.6	84.7	17.5	.6	1.6
8	63.55	24.2	28.9	21.2	24.8	26	25.8	25.9	26.8	27.7	79	17.6	3.1	2.6
9	62.73	24.3	31.8	18.3	24.3	27.2	25.7	26.1	26.8	27.7	75.4	16.7	4.8	3.7
10	61.81	24.3	32.3	17.6	24.6	27.1	25.8	26.2	26.7	27.7	73.5	16.2	5.3	4
11	61.71	24.4	32.2	18	25	26	26	26.3	26.8	27.7	72.4	16.2	5.5	4.2
12	61.05	24.6	32.7	18.1	25.8	27.8	26.6	26.8	26.7	27.5	69.6	15.6	5.8	4.6
13	60.05	25.1	33	19.2	25.2	28.3	26.5	26.9	26.7	27.6	65.8	15.3	6.4	5
14	59.80	24.7	32.5	18.2	25.1	27.6	26.5	26.8	26.8	27.5	68.3	15.6	5.6	4.1
15	59.93	25.3	33.4	18.5	25.5	28	26.4	27.1	26.7	27.5	72.7	17.2	5.5	4
16	60.11	25.7	32.7	21.1	25.9	28.2	26.6	27	26.7	27.7	80.5	19.5	3.1	2.5
17	60.12	27	34.3	21.9	26.2	28.4	26.6	27	26.8	27.5	77.7	20.2	4.7	3.4
18	60.70	26.2	33.7	21.8	26.8	28.2	27	27.4	26.8	27.6	76.7	19.2	4	3.2
19	61.84	26.5	32.9	22.3	26.6	28	27.1	27.2	26.8	27.8	67.5	17	6	4.7
20	62.12	25.7	33.1	20.5	25.4	27.4	26.9	26.9	26.8	27.5	62.9	15.1	7.7	5.7
21	61.77	25.7	31.2	22.7	26	27.2	26.6	26.8	26.8	27.5	73	17.8	5	3.8
22	61.33	27.4	33.8	21.4	25.9	29.1	26.6	27.1	26.8	27.5	65.6	17	7.4	6.1
23	60.91	25.9	33	20.5	26.7	28.3	27.2	27.4	26.8	27.6	72.9	17.8	5.5	4
24	60.07	25.8	33.4	20.6	26.7	28.8	27.2	27.3	27	27.7	70.8	17	6.4	5.2
25	60.46	26.2	33.9	18.8	26	29.7	27.2	27.8	26.8	27.5	63.6	15.3	9.2	6.9
26	60.36	26.2	33.7	19.4	26.6	30.1	27.5	28	26.9	27.4	61.1	15	9.6	7.3
27	59.95	27.2	33.9	22.3	27.2	30.2	27.8	28.3	27	27.4	61.4	16.1	8.9	6.6
28	59.51	27	34.3	21	27	29.9	28	28.4	26.9	27.5	64	16.4	8.5	6.4
29	59.73	26.4	34	19.4	26.5	29.8	27.8	28.2	27	27.5	62.1	15.3	9	6.9
Mean	761.46	25.3	32.2	20.2	25.7	27.9	26.6	26.9	26.8	27.6	72.7	17.1	5.3	4.2
Total													154.3	121.5
Departure from normal	+0.17	0	+1.5	—0.1							—1.2	—0.5		

Date.	Wind. Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Sunshine.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	*Km.*		*0–10.*			*h. m.*	*mm.*	
1	W quad.	167	17.5	W	2.2	A.-Cu. ENE	Cu. E	9 45		☊ a.
2	N quad.	414	35.5	N	4.9	A.-Cu.	Cu. NE	7 05		
3	N quad.	262	29	NbyE	8.9	A.-Cu. E	Cu.-N. ENE	1 15	0.9	d° a.
4	NE quad.	130.5	17.5	NE	6.1	A.-Cu.	S.-Cu. ENE	5 10	2.8	● p.
5	W quad.	106.5	9.5	W	8.7	Ci.-S.	Cu.-N. E	2 50	7.8	● a. p.
6	E, NNW	92	9.5	NNW, ESE	9	A.-Cu.	Cu.-N. E	2 00	7.9	p° a. ● p.
7	E	64	8	ENE	9.2	A.-Cu.	Cu.-N. E	2 15	2.4	d° a. ● p.
8	SE quad.	89	9.5	SE	9.3	A.-Cu.	N.-cf. E	2 25		d° a. p.
9	SE quad.	160	19	SE	4.6	Ci.	Cu. E	9 00		
10	SE quad.	167	18	SSE	1.2	Ci.	Cu.	9 40		☊ a.
11	SE quad.	135.5	16	SE	1.7	A.-Cu.	Cu.	9 45		
12	E quad.	178.5	17	WNW	2.9	A.-Cu.	Cu. NE	8 30		
13	SE quad.	263.5	25	SSE	4.2		Cu. E	8 40		
14	SE quad.	193.5	17	W	2.6	Ci.	Cu.	9 45		
15	SE quad.	183	24	SE	5.3	Ci. WNW	Cu. E	9 40		
16	W quad.	124.5	14.5	W	6.6	Ci., A.-Cu.	Cu. E	6 45	2.8	● ☐☌° p.
17	SE quad.	145.5	17	ESE	6.6	A.-Cu.	Cu. E	8 15		
18	E quad.	145.5	16	NE	5.9	A.-Cu.	Cu. ENE	6 00		●° a.
19	E quad.	154	18	ENE, ESE	3.9		Cu. E	6 20		
20	E quad.	226	27	E	8.2	A.-Cu. SSE	Cu., Cu.-N. NE	3 35		
21	E quad.	157.5	18.5	NNW	9.9	A.-Cu.	N.-cf. E	0 30		d° p.
22	SE quad.	230	21	SE	2.5	A.-Cu. SE	Cu.	9 55		
23	SE quad.	241.5	19	ESE	6.6	A.-Cu.	Cu. E	6 30		
24	SE quad.	198.5	22.5	ESE	6.3	Ci.-S.	Cu.	5 25		d° a.
25	SE.	290.5	28	SE	3.2	Ci.	Cu. E	9 50		
26	SE quad.	341	29	SEbyE	2	Ci.	Cu. E	10 15		
27	SE quad.	369	28	ESE	1.2		Cu. E	10 50		
28	SE quad.	248	30	SSE	3.2	Ci.	Cu. E	10 15		
29	E quad.	286	28	SE	3.2	Ci.	Cu.	10 05		
Mean		198.7	20.3		5.2			6 58		
Total								202 15	24.6	
Departure from normal		+7			+0.4			+2 09	+13.9	

[a] All the mean values given in this table are deduced from hourly observations.
[b] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[a]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 26.2 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	761.83	24.8	32.4	------	80.2	S	1	1.5	Ci.	Cu.	-------	
2	61.72	24.6	31.4	------	85.5	SE quad.	.8	2.5	Ci.	Cu. NE, E	-------	
3	61.37	26.2	31.9	------	84.3	S	.7	5.2	Ci.	Cu. NE quad.	-------	
4	61.87	24.5	30.2	------	90.2	NE	.5	7.3	Ci.-S.	Fr.-N. E	9.7	● a.
5	62.32	25	31.7	------	89.2	Variable	.7	8.3	Ci.-S.	Fr.-N. ENE	16.8	● p.
6	62.59	24.9	31.2	------	82.7	SE quad.	.7	4.5	Ci.-S., Ci.	Cu. E	-------	
7	62.69	24.8	32.9	------	77	SE	1	2.3	Ci.	Cu. ENE, E	-------	
8	62.40	25	32.1	------	79.5	S quad.	.8	4.8	Ci., Ci.-S.	Fr.-Cu., N. E	-------	
9	61.58	26.1	31.3	------	78.3	E quad.	.8	6.3	Ci.-S.	Cu. ESE, E	-------	
10	60.88	24.6	30.8	------	93.3	SSE, NE	.3	5.8	Ci.-S.	Cu.	72.4	●² p.
11	60.96	25.4	30.8	------	83.7	S	1	2.8	Ci.	Fr.-Cu. E	-------	
12	60.16	25.1	31.2	------	82.2	SE, S	.7	2.8	Ci., Ci.-S.	Cu. SSE, ESE	-------	
13	59.28	24.6	31.6	------	88.5	SE, NNE	.7	4	Ci., Ci.-S.	Cu. E	7.4	● p.
14	58.60	25.4	31.7	------	89.5	Variable	.8	9	Ci.-S.	Cu., Fr.-N. E	32.5	●² p.
15	58.86	26.2	30.7	------	88	S quad.	1	4.8	Ci.-S.	Cu. E quad.	-------	
16	59.55	26.6	31.6	------	84.5	S quad.	.8	2.3	Ci.	Cu. E	-------	
17	59.56	25.4	31.3	------	89	S quad.	.8	3	Ci.	Cu. E	7.9	●° p.
18	59.82	26	32.1	------	86	SSE, S	.7	3.2	Ci.	Cu. ESE	2	d° ●° p.
19	60.49	25.5	31.8	------	87.8	S quad.	1	3.7	Ci.	Cu. E	5.8	●° p.
20	60.33	24.7	31.3	------	82.3	NE quad.	1	4.3	Ci.	Cu.	-------	
21	60.38	26.4	32.9	------	77.5	SE quad.	1.3	2	Ci.	Fr.-Cu. E	-------	☊° a.
22	60.46	25.7?	31.7	------	76.8?	S	1	1.7	Ci.	Cu. SE, E	-------	☊² a.
23	60.25	25.7	31.5	------	80.7	SE quad.	.8	1.8	Ci.	Cu. SE, E	-------	☊² a.
24	59.53	24.6	30.8	------	90	SE, SSE	1	4.3	Ci.	N., Fr.-N. E, SE	-------	d° p.
25	59.60	25.8	31	------	87.3	E, NE	.3	7.5	Ci.-S., Ci.	Fr.-N. E	-------	d° a.
26	59.58	25.5	31.8	------	84.8	S, NNE	.5	3.7	Ci.	Cu. E	-------	
27	59.09	25.7	32	------	82.3	SE quad.	1.5	3.5	Ci.	Cu. E	-------	☊° a.
28	58.74	25.6	31.9	------	84	S, SE	.7	6.3	Ci.-S.	Cu. E	-------	
29	58.69	25.7	30.1	------	85.3	Variable	.7	7.5	Ci.-S.	Cu. E	1.5	●° d° ☋² p.
Mean	760.45	25.4	31.5	------	84.5		.8	4.4			-------	
Total	-------	-------	-------	-------	-------		-------	-------	-------	-------	156	

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	761.61	25.8	30.4	21	73	E	0.7	2.7	Ci.	S.-Cu. ENE	-------	☊ a. ☌ p.
2	61.41	25.8	31.1	21	72.3	E	.8	2.3	Ci.	Cu. ENE	-------	☊ a. ☋ p.
3	61.18	26.8	30.9	22.3	70.5	NE quad.	.8	3.3	Ci.	Cu., S.-Cu. E, ENE	-------	☊ a. ☌ p.
4	61.82	26.3	30.9	23	72.2	NE	1.3	7.8	A.-Cu.	Cu.-N. ENE	2.3	☊ a. d° p.
5	62.27	25.7	30.2	22.5	80	NE	1	7	Ci.-S.	Cu.-N. ENE	.8	●° d a.
6	62.60	26.2	30	23	73.2	NE quad.	1.5	3.3	Ci.	Cu. ENE	-------	☊ a. ☌ ☋ p.
7	62.86	26	29.8	22.5	68	NE quad.	1.7	2.7	Ci.	Cu. ENE	-------	☊ a. ☌° p.
8	62.28	26.4	30.7	21.7	63.7	NE	1	2.8	Ci.	Cu. ENE	-------	☊ a.
9	61.45	26.7	30.8	22.8	72.3	E	1.2	5.8	Ci.	Cu., Cu.-N. ENE	.8	☊ a. d° p.
10	60.68	26.7	31.5	23.7	77.8	NE	1	7.5	Ci.-S.	Cu.-N. ENE	-------	●° a. d° p.
11	60.71	26.8	30.6	23	73.3	NE quad.	1	4.2	Ci. NE	S.-Cu. ENE	-------	☊ a.
12	60.11	26.7	30.2	23.5	69.8	NE quad.	1.3	2.5	Ci.	Cu. ENE	-------	☊ a. ☌ p.
13	59.22	25.2	29.8	21.7	76.7	NE	.8	5.2	Ci.	Cu.-N. ENE	1.3	☊ ●° a.
14	58.43	25.7	31.4	21.5	79.5	NE	.7	6	Ci.-S.	Cu.-N. NNE, NE	21.6	☊ a. ● ⊤ p.
15	58.76	27	31.3	23.4	80.5	E	.7	3.3	Ci.	Cu. E	-------	☇ p.
16	59.41	27.4	31.1	24.5	77.7	E	.7	3.8	Ci.	Cu., S.-Cu. ENE	.8	☊ d a.
17	59.51	27	30.6	23.2	76.7	SE quad.	.7	2.7	Ci.	Cu. ENE	-------	☊ a.
18	59.49	26.9	30.8	22.8	76.7	E quad.	1.2	4.2	Ci.	Cu. ENE	-------	☊ a. d° ☇ p.
19	60.34	26.7	31	23.3	78.8	NE	1.2	4.3	Ci.	Cu. NE, ENE	.8	☊ a. ●° p.
20	60.44	25.9	30.1	22.8	73.3	NE quad.	1.7	4.2	Ci., Ci.-S.	Cu. ENE	2.3	☊ a. ●° p.
21	60.64	27.1	31	23.7	72.5	NE quad.	1.7	3.8	Ci.	Cu. ENE	-------	☊ d a.
22	60.61	27	31.4	23.9	69.3	NE quad.	1.3	2.8	Ci.	Cu. E	-------	☊ a.
23	60.36	26.8	31.5	22.7	70.2	E	1.2	3.7	Ci.	Cu., S.-Cu. E	-------	☊ a. ☌ p.
24	59.55	25.9	29.8	22.4	75.8	NE	.8	4.7	Ci.	N.-cf. E	.5	☊ a.
25	59.58	26.8	31.2	23.6	73.7	NE quad.	1	4.8	Ci.	Cu., Cu.-N. ENE	-------	☊ ●° a.
26	59.54	27	30.5	23.5	70.7	NE quad.	1.3	3.5	Ci.	Cu. ENE	.8	☊ ●° a.
27	59.18	26.9	31.2	23.5	73.5	E	1.3	3	Ci.	Cu. ENE	-------	☊ d a.
28	58.82	27.1	31.5	23.4	68.7	E	1.3	2.8	Ci.	Cu. E	1.8	☊ a.
29	58.70	27.2	31.2	22.7	71.3	E	1.5	4.8	Ci.	Cu., S.-Cu. E	-------	☊ ●° a. ☋ p.
Mean	760.40	26.5	30.8	22.8	73.5		1.1	4.1			-------	
Total	-------	-------	-------	-------	-------		-------	-------	-------	-------	33.8	

[a] All the mean values given in these tables are deduced from six daily observations.

Meteorological data for first and second class stations—Continued.

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Wind. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	761.64	26.1	31.9	21	70	NE quad.	1.2	2.2	Ci.	Cu.	-------	☊² a.
2	61.68	26.1	32	21	68.3	NE quad.	1.5	1.7	Ci.	Cu. NE	-------	☊ a.
3	61.32	26.2	30.5	22.3	72.5	NE quad.	1.8	2.3	Ci.	Cu. NE	-------	☊ a.
4	61.90	25.7	30	22.9	74	NE quad.	1.7	5.3	Ci.	Cu. NE	-------	d p.
5	62.24	26	30.5	23.5	74.7	NE	2.3	7.8	Ci., Ci.-S.	Cu. NE	1	d a. p. ●° p.
6	62.67	25.8	30	22.9	69.3	NE	2.2	5.7	Ci.	Cu. NNE	-------	d a.
7	62.99	25.5	30.1	21.6	64.8	NE quad.	2.5	.8	Ci.	Cu.	-------	☊ a.
8	62.51	25.2	29.6	21.3	65.7	NE quad.	2.2	2	Ci.	Cu. NE	-------	☊° a.
9	61.57	26	31.4	21.9	68.2	NE quad.	2	1.7	Ci.	Cu.	-------	☊ a.
10	60.81	26.1	30.7	23.4	77.3	NE quad.	2	8.5	Ci.	Cu.-N. NE	1	d a. p. ● p.
11	60.46	26.8	32	23.2	73.8	NE quad.	1.7	5.8	Ci.	Cu. E	-------	
12	60.16	26.1	30.2	22.8	71.3	NE quad.	2.3	1.3	Ci.	Cu.	-------	☊ a.
13	59.47	25.6	30.4	22.6	70.3	NE quad.	1.8	3.3	Ci.	Cu.-N. NE	-------	
14	58.80	26.7	31.6	22.5	70.8	NE	1.7	5.5	Ci.	Cu. NE, NNE	-------	☊ a.
15	58.90	26	31.8	23.9	83.5	NE quad.	1.2	6.2	Ci.	S.-Cu. E	1.6	☊ d ● a.
16	59.19	27.8	33.4	23.6	73.3	NE quad.	1.7	3.5	Ci.	S.-Cu. NE	-------	
17	59.26	27.7	33.5	23.7	72.5	NE quad.	1.8	2.2	Ci.	Cu.	-------	☊ a. ☾° p.
18	59.73	27	32	23.3	75.7	NE quad.	1.8	2.3	Ci.	Cu. NE	2.5	☊ a.
19	60.60	25.4	30.5	23.1	86.5	N, NNE	2	8	Ci.	Cu.-N. NE	3.6	d ● a. ●° p.
20	60.14	25.9	31	22	73.7	NE quad.	2.5	3.5	Ci.	Cu. ENE	-------	
21	60.22	27	31.6	23.2	68.5	NE quad.	2	2.8	Ci.	Cu. NE	-------	
22	60.46	26.6	32.5	22.2	69	NE quad.	1.7	1.2	Ci.	Cu.	-------	☊ a.
23	60.18	26.8	33	22.5	66.8	NE quad.	1.8	2.2	Ci.	Cu.	-------	☊² a.
24	59.13	26.7	32	22.7	70.3	NE	2	3.5	Ci.	Cu. ENE, E	-------	☊° a. d p.
25	59.70	27	31.5	23.4	68.5	NE quad.	2.2	3.7	Ci.	Cu. NNE	-------	
26	59.58	27.1	32.2	22.3	67.5	NE quad.	2.2	1.2	Ci.	Cu. NE	-------	☊ a.
27	58.90	27.2	32.5	23.1	69.2	NE quad.	2.3	2.3	Ci.	Cu. NE	.3	d² ◠ a.
28	58.81	26.8	32.2	22.3	64.7	NE quad.	1.8	.7	Ci.	Cu.	-------	☊ a.
29	58.73	27.4	32.1	23.5	68.3	NE quad.	2.5	3.7	Ci.	Cu.-N. NE	1.3	☊ a. d p.
Mean	760.41	26.4	31.5	22.7	71.3	-------	1.9	3.5	...	...	...	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	11.3	

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	761.92	24.4	29.8	18.2	79.7	Variable	0.5	4.8	A.-Cu.	Cu.-N. E	-------	☊° a.
2	61.75	25.1	30.9	19.7	79.8	Variable	.5	5.2	A.-Cu.	Cu.-N. NW	18.3	☊° a. p ●p.
3	61.54	25.6	30.2	22.3	82	Variable	.2	7.8	A.-Cu.	Cu.-N. E	.6	≡° a. p a. p.
4	62.09	25.1	27.9	22.5	79.7	N quad.	.3	9.5	Ci.-S., A.-Cu.	Cu.-N. E, NE	-------	
5	62.58	25.3	29.5	22.8	78.8	NE	.7	8.7	Ci.-S.	Cu.-N. E	1	d p.
6	62.85	26.6	31.2	22.9	61.2	NE quad.	1	3.2	Ci. SSW	Cu. NE	-------	
7	62.98	26	30.8	20.8	61.8	NE quad.	1	2	Ci.	Cu. NE	-------	
8	62.52	24.3	31.6	17.4	70.3	N, NE	.5	3	A.-Cu.	Cu. E	-------	☊ a.
9	61.81	25.1	30.1	19.8	77.3	Variable	.5	6.8	A.-Cu.	Cu.-N. E	.3	☊° a. p p.
10	61.12	24.8	28.2	22.4	91	NW quad.	.3	8.3	A.-Cu.	Cu.-N. E	19.6	p ◠° a. d ● p.
11	60.97	25.2	31	20.6	82.8	NE quad.	.7	5.8	Ci., A.-Cu.	Cu.-N. E	.3	p ≡ a.
12	60.52	25.6	31.6	19.6	72.3	NE quad.	.8	3.2	Ci.	Cu. NE	-------	☊ a.
13	59.48	25.8	31.4	20.2	73.8	Variable	.5	4.8	Ci.-S.	Cu., Cu.-N. NE	-------	☊ a.
14	58.72	24.9	32.2	20.9	86.8	Variable	.5	8.3	Ci.-S.	Cu.-N. E	26.3	◠°⊤● ☾≡d°
15	59.14	25.3	29.6	22.9	90.5	N	.2	7.3	Ci.-S.	Cu.-N. E	6.8	●°≡²d ◠°a. ⊤p.
16	59.63	25.9	31.1	21.5	82	NE quad.	.5	2.7	Ci.	Cu. E	-------	≡° ☊ a.
17	59.71	26.3	31.6	22.4	79.2	NE, SW	.7	3.8	Ci.	Cu. E	-------	☾ p.
18	60	24.5	31.7	19.4	85	Variable	.3	3.7	Ci.	Cu., Cu.-N. E	7.2	☾ ☊ ⊤ ◠ d²
19	60.79	24.8	28.9	21	85	N quad.	.2	7	Ci.-S.	Cu.-N. NE	4.1	◠ a. d a. p. ⊤ p.
20	60.71	26.8	31.3	23.7	61.8	NE quad.	1	6.5	Ci.	Cu. NE, E	-------	
21	60.91	27.1	31.2	23.5	62.3	SE quad.	1.3	5.3	Ci.	Cu.-N. E	.3	
22	60.96	25.5	30.8	20.7	74.3	E quad.	.8	4.3	A.-Cu., Ci.	Cu. ESE	-------	d° ◠ a.
23	60.74	23.6	28.5	18.2	83	NE quad.	.2	3.3	Ci.	Cu.-N. ENE	.3	☊ a. d p.
24	59.76	24.1	29.7	19.5	86.5	Variable	1	7.2	Ci.-S.	Cu.-N. ENE, E	3.4	☊ a. d a. p. ◠² p.
25	59.90	26.4	31.9	22.2	70.8	NE quad.	1	4.7	Ci.	Cu. ENE	.3	
26	59.80	26.5	31.1	22	69.3	E quad.	.8	5	Ci.	S.-Cu. E	-------	☊ ◠² p a.
27	59.56	25.8	31.5	21.8	71.5	NE	.5	2.8	Ci.	Cu. E	-------	p p.
28	59	26.5	31.9	18.7	65.2	NE quad.	.8	3.5	Ci.	Cu. E	.3	☊ a.
29	59	26	31.2	21	73.5	NE quad.	1	5.5	A.-Cu.	Cu.-N. E	1.5	d a. ◠ p p.
Mean	760.71	25.5	30.6	21	76.5	-------	.6	5.3	...	...	...	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	90.6	

Meteorological data for first and second class stations—Continued.

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 3.4 meters; gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	762.10	25.1	30.6	21.1	81.3	N quad.	0.8	4.8	Ci., A.-Cu.	Cu. E	-------	Ω a.
2	61.91	26.2	31.6	22.7	81	N, WNW	1.3	5.5	A.-Cu., Ci.-Cu.	Cu.	-------	Ω a.
3	61.88	25.2	30.1	23.1	85.2	NW quad.	1.5	7.5	A.-Cu.	S.-Cu., Cu.-N. S,N	4.3	Ω° a. ● a. p.
4	62.42	24.7	27.5	22.6	87	N	1.3	10	-------	Cu.-N. NE	11.7	●° a. d a. p.
5	63.10	24.5	27.1	22.2	87.3	Variable	.5	8.7	-------	Cu.-N. SE	11.1	●° a. ● p.
6	63.58	25.7	30.6	21.5	74.2	Variable	1.2	3.7	Ci. W	Cu. E	-------	Ω° p.
7	63.62	25.1	31	20.8	75.5	WNW, ENE	1.2	1.7	Ci., A.-Cu.	Cu. E	-------	Ω² a. Ω° p.
8	63	25.2	31.9	20.6	74.8	W, ENE	1.7	3	A.-Cu. W	Cu. E	-------	Ω² a.
9	62.08	25.4	31.2	22.2	82	E, NW	1.7	7.7	Ci.-S.	Cu.-N. E	4.3	d° p.
10	61.32	24.8	28	23	91.3	NE, NW	.7	8.8	Ci.	Cu.-N. E	35.6	d° ●° a. p. ●² p.
11	61.24	25.8	30	22.5	82.7	S, ESE	.5	4.7	-------	S.-Cu. E, ESE	-------	d° p.
12	60.68	26.6	31.8	22.5	74	E	1.8	3	-------	Cu. ESE	3	Ω° ⌒ a.
13	59.67	26.2	32.1	22.6	76	E quad.	1.2	5.7	Ci.-S.	Cu. ENE	-------	●° a.
14	58.92	25.4	29.6	23	89	NW quad.	.8	8.3	-------	S.-Cu. ENE	33	Ω° a. ●° d p.
15	59.42	25.9	29	23.7	90.2	ENE, E	.3	8.3	-------	Cu.-N. ENE, ESE	7.9	d ●° a. d° p p.
16	60.05	26.1	30.5	23	87.2	Variable	.8	4.3	Ci.	Cu.-N. E	10.2	≡ Ω² a. ●° p.
17	60.06	26.3	31	22.8	83.3	S	.8	3	Ci.	Cu.	-------	d° ≡° a. Ω° p.
18	60.28	25.5	31.2	22.4	88	NE, S	.5	4.5	Ci.	Cu.-N. E	4.8	Ω² a. p² p.
19	61.07	25.5	29.8	23.5	86.3	NW quad.	.8	7.3	-------	Cu.-N. ENE	3	Ω² d ⌒ a. p² p.
20	61.24	26.2	30.1	23	74.5	E, ESE	1.5	6.2	Ci., Ci.-S. N, NE	Cu.	-------	
21	61.39	26.7	31.6	23	76.3	ESE	1.3	5.3	Ci.-S. N	Cu. E	-------	Ω° a.
22	61.17	26.1	29.8	23.1	77.5	S	1.8	2.7	-------	Cu. E	-------	Ω a.
23	61.03	24.5	26.9	22.1	87.5	S	1	5.2	Ci.	Cu. ESE	2.3	Ω² a. d° a. p.
24	60.01	25.2	29.6	23.1	88.3	Variable	1	6.3	-------	S.-Cu. ENE	4	Ω° ●° a. d p.
25	60.35	26.8	31.7	23.2	73.8	E quad.	1.2	5.2	Ci.	Cu.	-------	Ω° a. p.
26	60.22	25.8	31	22.1	80.3	E	1.7	4.2	Ci.	Cu.-N. ENE	4.3	Ω² a. ● p.
27	59.85	26	31.5	22.4	78.5	SE quad.	1.5	3.5	-------	Cu. SE	-------	Ω² a. Ω° p.
28	59.40	25.8	31.5	20.8	79.2	SE quad.	1	3.7	Ci.	Cu. E, ESE	1.3	Ω² d a. Ω° p.
29	59.42	26	32.1	23	82.3	NE quad.	1	4.2	A.-Cu.	Cu. E	1.3	Ω² a. ●° p.
Mean	761.05	25.7	30.4	22.5	81.9	-------	1.1	5.4	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	142.1	

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	762.26	26.2	31.4	22.9	76.8	NE quad.	0.7	3.3	Ci.-S.	Variable E	-------	d° a.
2	62.23	25.5	31.3	21	80.7	NNE	.3	2.5	Ci.	Fr.-Cu. N	-------	Ω° a.
3	62.22	26.5	31.1	23.9	79.5	NE	1.2	6.5	Ci.	Fr.-N. NE	-------	
4	62.77	26.6	31.1	24.4	74.3	NE	1	8.8	Ci.-S. NE	N. NE	-------	
5	63.07	26.3	31.4	24	77.5	NE	1.3	8.8	Ci.-S. NE	N. NE	-------	d° p.
6	63.57	26.2	31.5	22.8	71.8	NE	1.3	4.5	Ci.	Cu. NE	-------	
7	63.72	25.9	31.7	23	71.3	NE	1.2	3.8	Ci.-S.	N.-cf. NE	-------	
8	63.35	25.4	30.9	21.9	76.7	NE	.8	2.8	Ci.	Cu. NE	-------	
9	62.45	25.8	30.9	21.9	78	N, NE	.7	5.5	Ci.	Cu. NE	0.3	d° p.
10	61.66	25.9	30.4	23.9	83.5	NE	.8	9.3	Ci.-S.	N. NE	-------	d° a. p.
11	61.53	26.6	31.3	24.2	82.2	NE	1	5.3	Ci.	Cu. NE	.5	●° p.
12	61.16	26.8	31.6	23.3	80.2	NE	1	5.8	Ci.-S.	Fr.-N. NE	-------	d° a. p.
13	60.03	25.7	31	22.6	81	N, NE	.7	5	Ci.-S.	Fr.-N. NE, N	2	● a.
14	59.46	26	31.2	22.4	84.2	NW quad.	.3	6.8	Ci., Ci.-S.	Fr.-N. N, NW	6.9	● p.
15	59.63	26.2	30.3	24.3	88.3	NE quad.	1.2	9.2	Ci.-S.	Fr.-N. NE	.5	d° p° a.
16	59.95	26.9	32.9	24.9	85.8	NE	.3	5	Ci., Ci.-S.	N. NE	-------	d° ⌒ a.
17	60.06	27	32.3	23.9	84.7	NE	.3	3.3	Ci.	Cu. NE	-------	d° a.
18	60.60	26.7	31.7	23.2	82.5	NE	.5	4.7	Ci., Ci.-S.	Cu. NE	-------	
19	61.68	25.2	29.5	23	91.5	NE	1.2	8.7	Ci.-S.	N. NE	19.5	●° a. p.
20	61.27	25.1	29.4	23	90	NE	1	7	Ci.-S.	N. NE	2.3	p° a .d° p.
21	61.27	26.7	32.2	23.2	79.2	NE	1.2	3.8	Ci.	Cu. NE	-------	
22	61.14	26.5	32.4	22.8	79.7	ENE	.8	4.2	Ci.	Fr.-Cu., N.-cf. E	-------	
23	60.98	25.8	32.1	21.4	81.2	NE	.5	6.2	Ci.	Cu., N. NE	23.8	Ω° a. ● p.
24	60.18	26	31.3	21.7	81.8	NE, E	.7	8.8	Ci.-S.	N. E	-------	
25	60.57	26.1	31.1	23.5	80.7	NE	.8	7.3	Ci.-S.	Fr.-N. NE	-------	d° a.
26	60.56	26.2	32	21.4	80.5	NE	.8	5.2	Ci.	Cu., N. NE	-------	Ω a.
27	59.88	26.6	32.3	23.8	82.3	NE quad.	1	4.5	Ci.	Cu. E	-------	
28	59.39	26.2	32.2	21.3	81.2	E quad.	.7	3.8	Ci., Ci.-S.	Cu. E	.3	●° p.
29	59.68	27.2	31.9	24	80.2	NE	1.2	6.2	Ci.	Cu. NE	-------	
Mean	761.25	26.2	31.4	23	80.9	-------	.8	5.7	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	56.1	

Meteorological data for first and second class stations—Continued.

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	762.14	24	28.8	18.9	84.2	Variable	0.5	5.5	Ci.-S. SEbyE	S.-Cu. E	1	☊ a. d p.
2	61.91	25.7	31.7	21.4	82.5	N quad.	.8	6.2	A.-Cu.	Cu. ENE, N	------	☾ a. ☿ p.
3	62	25	30.9	22.8	85.2	NE	.5	9	Ci.-S.	S.-Cu. NE	3	☋ a. ☾ ☁ p.
4	62.39	25.9	31.7	22.6	77.5	NE	.5	7.7	A.-Cu. E	S.-Cu. NE	------	☾ a. ☿ p.
5	62.96	25.8	30.7	22.6	78.5	NE	1.2	6.8	A.-Cu.	S.-Cu. ENE	.3	d a. ∞ p.
6	63.44	25.3	32.4	20.2	72.8	NE	1.2	3.7	Ci.-S., Ci.	Cu. NE	------	
7	63.54	23.9	32.8	17.8	74.8	NE	1.2	.8	----------	Cu. NE	------	
8	63.06	24.6	33.2	17.9	73.5	N, NE	1.3	1.2	----------	Cu. NE	------	
9	62.15	24.3	30.5	18.6	83.5	N	.7	4.8	Ci.-S.	S.-Cu. NE	2.3	d a. p.
10	61.32	26	32	23.1	83.5	NE	1	8.7	Ci.-S.	S.-Cu. NE	4.3	☾ a. p. ● ☾ p.
11	61.18	25.7	29.7	22.8	85.7	Variable	.5	4.7	Ci.-S.	Variable NE	------	☾ a. p.
12	60.56	25.9	33.7	20.3	77	NE	.8	1.2	----------	Cu. NE	------	☊ a.
13	59.78	26.3	33.3	22	73.7	NE	.8	1.2	----------	Cu. NE	------	☊ a.
14	58.83	25.7	31.9	21.8	86.8	N	.3	5	A.-Cu.	S.-Cu. NE, ENE	14.5	● ☽ ☾ p.
15	59.45	25.8	30.7	23.6	89.7	N	.5	7.5	Ci.-S.	S.-Cu. NE	25.6	●☾ a. p. ☾ p.
16	59.95	25.7	32.2	22.3	88.5	Variable	.7	4.7	Ci.-S.	S.-Cu. E	39.9	☽ ●2 p.
17	60.04	25.8	30.4	21.9	85.8	SE, SW	.5	3	----------	S.-Cu. NE	------	
18	60.24	25.3	31.1	21.1	87.7	Variable	.7	3.3	Variable	Cu. NE	23.2	☊ a. ●2 ☽ p.
19	61.26	24.5	28.4	22.1	92.3	NNE	.5	7.2	Ci.-S.	S.-Cu., N. NE	48.1	☾ a. p. ● ☾ p.
20	61.33	25.1	30.3	21.5	82	Variable	.7	6.5	Ci.-S.	S.-Cu. NE, ENE	.8	●☾ a.
21	61.38	25.4	31.7	21.1	78.2	E	.7	4	Ci.-S.	S.-cf. E	------	
22	61.15	24.1	28.2	20.2	87.2	Variable	.5	3.7	Ci.-S.	S.-Cu. E	1.8	☊ a. ☾ p.
23	61	24.2	30.1	19.8	89.5	Variable	.8	4.5	Ci.-S.	Cu. ENE	33.5	☊2 a. ☾ ● p.
24	60.02	25.3	32.5	21.6	84.5	Variable	.7	5.3	Ci.-S.	S.-Cu. E	.3	☾ a.
25	60.43	25.8	32.7	21.3	77.2	NE quad.	1.3	1	Ci.	Cu. NE	------	☊ a.
26	60.39	25.6	32.6	21.5	80.7	NE	1	3.2	Ci.	Cu. ENE	------	☊ a. ☾ ☿ p.
27	59.86	26	33.4	21.9	81.2	N	.8	2.5	----------	Cu. E	------	
28	59.54	25.2	30	21	82	Variable	.7	1.7	Ci. SSE	Cu. E	------	☰ a. ☿ p.
29	59.49	26	33.8	20.4	77	NE quad.	1	1.7	----------	Cu. ENE	------	☋ p.
Mean	761.06	25.3	31.4	21.2	82.2	----------	.8	4.4	----------	----------	------	
Total	------	------	------	------	------	----------	------	------	----------	----------	198.6	

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.77 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	762.39	26.1	32.1	19.8	76.5	E quad.	0.7	2.7	A.-Cu. ENE	Cu.	------	
2	62.27	26.4	33	19.9	76.8	E, NE	1.2	2.5	A.-Cu.	Cu. NE	3.6	
3	62.51	25	30.1	21.4	81.8	NE quad.	1.5	8	Ci.-S.	Cu.-N. NE	2.3	d ● a. p.
4	62.87	26.4	31.6	23	76.3	NNE, ENE	1.7	6.8	Ci.-S.	Cu. NE	29.2	● d☾ p.
5	63.72	24.7	27.9	21.8	85	NE, ENE	2.3	8.8	Ci.-S.	Fr.-N. NE	7.6	●2 a. ● p.
6	63.95	26.4	30.5	23.3	70.5	ENE	2.2	4.2	Ci.	Cu.-N., Cu. ENE	------	d☾ p.
7	63.93	26	30.5	22.4	71.5	NE	1.8	3	Ci.	Cu. ENE, NE	------	☾ ↘ p.
8	63.66	26	32	21.5	73.2	NE	1.3	1.7	Ci.	Cu. ENE	------	
9	62.76	26.4	32.7	22.1	73.5	NNE, NE	1.2	4.7	Ci.-S.	Cu. NE	.8	p p.
10	62.06	25.5	31	22.7	81.7	NNE	1.3	7.2	Ci.-S.	Cu.-N. NE	2.8	● p. d a. p.
11	61.87	25.2	27.6	22.7	83.8	NNE	1.5	5.7	Ci.-S.	N. NE	11.9	d ● a.
12	61.15	25.6	30.7	22.2	80.8	NE quad.	1.8	6	Ci.-S.	Cu.-N. NE	2	● a. p.
13	60.40	26.8	32.2	22.4	75.3	NE	1.5	2.7	----------	Cu. NE	------	☾ ↘ p.
14	59.49	26.6	32.6	23.5	78.5	NE	1.2	5.8	Ci.-S.	Cu.-N. NE	------	☾ d p.
15	59.75	27.1	33.1	21.5	81.5	NE	1.2	7.8	A.-Cu. ESE	Cu.-N. NE	.3	p p.
16	59.96	27.4	33.2	23.4	83.8	NE	1	4.3	Ci.-S.	N. NE	.3	d a.
17	60.19	27.5	32.4	23.9	81	N quad.	1.2	3.5	Ci.-S., Ci.	Cu. NE	.3	d a.
18	60.57	26.6	33.7	19.8	79.7	NE	1.3	2.7	Ci., A.-Cu.	Cu. NE	------	☰ a.
19	61.58	25.2	27.8	23	89.8	NNE	2.7	8.2	Ci.-S.	Fr.-N. NE	68.7	● a. p.
20	62.10	23.6	25.4	21.2	94	NE	2.5	10	Ci.-S.	Fr.-N. NE	86.3	●2 a. p.
21	61.92	24.7	27.2	21.6	90.5	NE	2.2	7.5	Ci.-S.	Cu.-N. E	7.6	● d a. p.
22	61.55	25.7	30.7	19.6	85.3	NE	.5	7.3	Ci.-S.	cu.-N., Cu. E, ENE	.3	☰ a.
23	61.40	26.1	31.9	21.6	84.8	NE quad.	1	7.5	Ci.-S.	Fr.-N. E., ENE	11	☰ a. d ● p.
24	60.57	26.7	30.9	22.4	81.3	NE, ENE	1.2	4.5	Ci., Ci.-S.	Cu. ENE	1.3	d ● a.
25	60.90	27	32.2	22.5	77	NE	1.8	2	Ci.	Fr.-N. NE	------	d☾ a.
26	60.86	27	32.8	22.7	78.3	NE	1.2	2.5	----------	Cu. ENE	------	
27	60.26	25.8	29.9	23.5	85.3	NE	1.5	5.2	Ci.-S.	Cu.-N. ENE	11.7	d a. ● a. p.
28	59.87	27.4	31.6	23.4	75.5	NE	1.5	1.5	----------	Cu. ENE	------	☾ ↘ p.
29	60.16	27.1	32.5	21.9	76.7	ENE	1.2	3.2	Ci.-S., A.-Cu.	Cu. ENE	4.6	● a.☾ p.
Mean	761.54	26.1	31	22.1	80.3	----------	1.5	5.1	----------	----------	------	
Total	------	------	------	------	------	----------	------	------	----------	----------	252.6	

Meteorological data for first and second class stations—Continued.

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	762.48	25.1	27.6	22.8	82.2	N	1.8	6.8	A.-Cu. ENE	Variable NE	13.7	d² ● a. d° ☋² p.
2	62.71	25.3	27.5	23.6	83.2	NE	3	7.3	Ci.	S.-Cu. NE	.8	d° a. p. ● ☋° ☋² p.
3	62.67	25.5	27.5	24.3	77.5	N quad.	3.2	7.2	A.-Cu. NE, E	S.-Cu. NE	-------	d° ☋² p.
4	63.02	25.4	26.5	24.4	80.3	N	3	5.8	Ci.	Cu. NE	-------	☋° a. ☋² p.
5	63.62	25.4	27.4	23.1	80.5	NE, E	1.5	9.2	A.-Cu. ENE, E	S.-Cu. NE	4	●° d a. ☋° p.
6	64.05	25	28.8	23.5	78.5	NE	1.8	8	A.-Cu. E	S.-Cu. NE	3.6	d² a. ● p.
7	63.99	25.3	30	20.6	75.2	NE	1.8	4	A.-Cu. ENE, E	Cu. E	-------	☋² a.
8	63.57	24.3	28	19.5	78.8	SW, N	1.5	3.2	A.-Cu. E	Cu. NE, E	-------	☋² Ω² a.
9	62.96	24.3	29	18.7	78.2	Variable	1.8	2.7	Ci. SSE	Cu. NE	-------	☋² Ω² ☰° a.
10	62.23	25.8	27.4	24.2	74.7	N quad.	2.8	8.7	A.-Cu. NE quad.	S.-Cu. NE	1.3	● d a.
11	62.04	25.4	27.5	24	79	N	2.7	7	A.-Cu. ENE, E	S.-Cu. NE	-------	d a.
12	61.41	25.9	28.8	24.3	77.7	NE	2.8	4.3	A.-Cu. E	S.-Cu. NE	3.3	d° ●° a.
13	60.47	26	30.2	23	75.3	NE quad.	2	5.5	A.-Cu. ENE	S.-Cu. NE	-------	●° a.
14	59.88	26.6	29.6	24.4	73.2	N quad.	1.8	3.3	A.-Cu. NE	S.-Cu. NE	-------	
15	60.19	25.9	28.3	24	83	N	3.2	6.5	Ci.	S.-Cu. NE	4.9	d° a. p.
16	60.41	25.9	28.7	23.9	87.2	N quad.	2.2	8.2	A.-Cu.	S.-Cu. NE	5.1	d² a. d° a. p.
17	60.25	26	27.5	24.5	88.5	NW, N	2.3	6	A.-Cu. NE	S.-Cu. NE	-------	●° a.
18	60.98	25.8	27.7	24.4	88.2	N quad.	2.7	8	A.-Cu.	N. NE	2.3	◠° d° a. d² p.
19	62.37	26.4	28.4	24.7	77.8	NNE	5.7	6.3	A.-Cu. NE	S.-Cu. NE	2.5	●° a. ↙° d° a. p.
20	62.74	25.2	26.5	23	80	NE	5.8	9.7	A.-Cu.	N. NE	3.6	↙° ●° d² a. p.
21	62.25	24.7	26.7	22.9	88.2	NE	2.8	9.3	Ci.	S.-Cu., N. ENE, NE	6.4	d a. ●° p.
22	61.67	24.9	29.3	20.4	81.8	NW quad.	1.3	2.8	A.-Cu. SE, S	S.-Cu. SE	1.5	Ω² ☰° a.
23	61.61	25.4	27.2	24	86	N quad.	2.2	9.8	Ci.	N., S.-Cu. NE	1.6	● d a. d° p.
24	60.50	26.4	29.7	24	79	NE quad.	2.3	6.2	A.-Cu. E	S.-Cu., Cu. NE	-------	
25	61.14	26.5	30.5	24.2	76.5	NE quad.	2.3	4.7	A.-Cu. NE, E	Cu. NE	-------	
26	60.87	26.3	31.4	24.1	78.2	NE	1.8	4.8	A.-Cu. NE	Cu. NE	-------	
27	60.54	26.5	29.9	24.1	78.7	NE quad.	2	5.7	A.-Cu. E	Cu. NE	-------	☋° ☋² p.
28	60.04	26	30.5	21.5	79.3	N quad.	1.7	4.2	A.-Cu. ENE	Cu. Variable	-------	Ω² ☰° a. ☋° p.
29	60.16	27.3	30.6	24.7	74.8	NE	2.2	3.7	A.-Cu. NE	Cu. NE	-------	
Mean	761.75	25.7	28.6	23.3	80.1	----------	2.5	6.2	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	54.6	

PARACALE.

[ϕ=14° 17′ N; λ=122° 47′ E; barometer above sea, 5.3 meters; gravity correction not applied, —1.73 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	762.65	24.6	29.3	21.6	87	E	0.2	6.5	Ci.-S., Ci.	Cu. E	1	● a. Ω² ☰ p.
2	62.94	24.8	29.4	20.5	84.8	NNE	1.3	7.3	Ci.-S., Ci.	Cu. N	4.3	Ω² a. ● a. p.
3	62.87	25.5	28	24.2	78.2	NE	1.8	9.3	Ci.-S.	Cu. NNE	-------	
4	63.13	25.4	29.9	21	81.2	ENE	1.2	5.7	Ci.	Cu. NE	5.6	Ω a. ● p.
5	64.01	24.8	27	23.4	83.7	ENE	2.5	10	Ci.-S.	Cu., S.-Cu. E	4.8	d a. ● a. p.
6	64.29	25.3	29	23.3	75.3	E quad.	1.7	7	Ci.-S., Ci.	Cu. E	.8	●° a.
7	64.37	25.7	29.3	23.7	71.8	E quad.	1.3	2.5	Ci.	Cu. E	-------	
8	63.80	24.5	29.4	20.2	78.5	E	.8	1.8	Ci.	Cu. E	-------	Ω a. p.
9	63.24	24.4	30.1	19.4	79.8	ENE	.8	2.3	Ci.	Cu. E	-------	Ω² a.
10	62.46	25.6	30	22	79.8	ENE	1	7.5	Ci.-S.	Cu. E	-------	Ω p.
11	62.33	24.9	30.4	20.9	82.3	ENE	1	5.3	Ci.	Cu. E	-------	Ω a. p.
12	61.79	24.8	30.3	20.8	82.3	E	1	4.5	Ci.	Cu. E	8.4	Ω a. d° ● p.
13	60.75	25.8	29.8	22.5	78	E quad.	1.2	4	Ci.	Cu. E	-------	Ω p.
14	60.27	25.4	30.6	20.6	82.2	NNE	1	6.8	Ci.-S.	Cu. NNE	4.8	Ω² ☰° ●° a. d° p.
15	60.37	26.1	30.3	23.3	87.3	NE	.8	8.3	Ci.-S.	Cu. NE	11.5	● a. d p.
16	60.55	26.6	30.6	24.5	88.3	ENE	1.3	9	Ci.-S.	Cu. ENE	5.7	● a. p.
17	60.52	26.3	30.4	24	88.8	NE	.8	4.8	Ci., Ci.-S.	Cu. E	-------	Ω² a. p.
18	61.25	25	29.8	22.6	91.5	NE	1	5.7	Ci.	Cu. E	17.2	Ω² a. ● a. p.
19	62.89	26.1	29.2	23	82.7	NE	3.2	8.7	Ci.-S.	Cu. NE	11.7	● p.
20	63.14	25.2	27	23	81.5	NE	3.8	10	Ci.-S.	Cu. NE	20.5	● a. p.
21	62.30	24.7	27.3	22	90.2	ENE	2.5	8.3	Ci.-S.	N., S.-Cu. ENE	35.6	● a. p.
22	61.83	25.2	30.4	20.4	86	ENE, NE	.3	2	Ci.	Cu. ESE	3.1	Ω² ☰ a. ●° p.
23	61.68	25	27.8	22.5	89.7	ENE	.8	10	Ci.-S.	Cu., N. E	7.7	● a. p.
24	60.84	25.8	29.3	22.8	83.2	NE	1	6.7	Ci., Ci.-S.	Cu. E	-------	d° a. p.
25	61.40	26.2	29.8	23.3	80.3	ENE	1.2	6.2	Ci.	Cu. E	-------	
26	61.12	25.9	30.3	22.8	80.5	NE	1	4.7	Ci.	Cu. E	-------	Ω² a. ☋° p.
27	60.74	26.2	30.3	24	82.5	NE	1.2	5.7	Ci.	Cu. E	1.8	Ω° p° a. p. ◠° ● p.
28	60.20	25.5	30.4	20.8	82	E	.7	3.7	Ci.	Cu. E	-------	☰ a.
29	60.60	25.6	30	22	84	E quad.	.7	7.2	Ci.	Cu. E	-------	Ω² a.
Mean	762.01	25.4	29.5	22.2	82.9	----------	1.3	6.3	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	144.5	

Meteorological data for first and second class stations—Continued.

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.				Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction.					
									Upper.		Lower.			
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	762.46	25.3	32.7	19.1	74.2	NE quad.	2.5	5.2	A.-Cu.	E	Cu.	NE		☊ a.
2	63.16	24.9	31.1	21.5	75.3	N	3.2	7.5	A.-Cu.	E	Cu.	NE	0.3	☊° a.
3	63.15	23.6	30.4	20	78	NE	2.2	8.3	A.-Cu.	E	N.	NE		d a. ☊° p.
4	63.31	24	30.7	17	75.3	NE	2.2	7.3	A.-Cu.	E	N.	NE quad.		☊² a. ☋ p.
5	63.82	25.1	30.2	21.7	71.7	NNE	2	6.8	A.-Cu.	E	N.	E, NE		☊° a. ☋° p.
6	64.09	25	31.7	20.8	71.5	NE quad.	1.7	6.7	A.-Cu.	ESE	Cu.	E quad.		☋² a. ☊° a. p.
7	64.24	23.8	31	18.8	73.2	N, NE	2	4.2	A.-Cu.	E	Cu.	NE, E		☊ a. p.
8	63.63	25.2	32.2	20.5	70.5	NE quad.	2	7.3	A.-Cu.	E	Cu.	NE quad.	2.3	☊° a.
9	62.86	25.1	31.5	20.7	73.2	NE	2	6	A.-Cu.	E	Cu.	NE		● a. ☊ p.
10	62.04	25.2	34.1	18	68.2	NE quad.	1.8	2.5	Ci.		Cu.	NE		☊² ≡ a.
11	61.84	25.8	33.4	18	68.2	NE, N	2	2.8	A.-Cu.	E	Cu.	NE		☊² a.
12	61.28	25.5	33	19.3	69.3	ENE	3	2.7	A.-Cu.		Cu.	E		☊² ≡° a.
13	60.32	24.9	33	18.4	67	NE	2.8	2.2	Ci.		Cu.	ENE		☊ a. p.
14	59.93	25.5	34.2	17	65.2	N, E	1.8	2.5	Ci.		Cu.	NE quad.		☊² a.
15	60.10	25.9	34.1	18.1	66.7	N, NE	2	3.3	Ci.	SE	Cu.	NE		☊² a.
16	60.24	26.6	34.7	19.5	70.5	NE	2.3	4.3	A.-Cu.	E	Cu.	NE		☊ a. p.
17	60.22	27.7	35.8	21.8	70.2	E quad.	2.2	4.3	A.-Cu.	NE	Cu.-N.	E		☊ a. ☇ | p.
18	60.82	27.3	34.8	21.1	72	E, NNE	2.5	4.8	A.-Cu.	E quad.	Cu.	NE		☊ ≡° a.
19	62.24	26.6	33	20.9	66.8	NE, ENE	3.2	3.2	A.-Cu.		Cu.	NE, ENE		☊ a. ☄° p.
20	62.57	25.4	32.2	20	64.8	NE quad.	2.5	5	A.-Cu.	ESE	Cu.	ENE		☊ a.
21	62.24	25.6	30.7	23.4	75.5	NE	2	8.7	Ci.-S.		N.	ENE	1.3	d p.
22	61.62	27.4	34.7	21.5	68.5	NE	1.7	5.5	Ci.-Cu.	SE	Cu.	ESE		☊ a.
23	61.16	26.1	33.9	19.6	68.7	N, NE	2.3	2.8	Ci.		Cu.	E		☊² a.
24	60.37	26.2	33.7	20.5	65.7	NE quad.	2.5	3.3	A.-Cu.	W	Cu.	ESE		☊ a. ☄° p.
25	60.80	25.7	33.6	18.6	66.7	ENE	2.7	3.8	Ci.	SE	Cu.	E		☊ a. p.
26	60.67	25.6	33.6	17.4	67.7	NE	2.2	3	Ci.		Cu.	ENE		☊ a. p.
27	60.25	25.8	33.2	18.6	67	NE, N	2.5	3.2	Ci.		Cu.	E		☊ a. p.
28	59.82	27.8	34	20.8	60.2	E, NE	2.5	4.5	A.-Cu.	ENE	Cu.	E		☊ a. p.
29	59.93	27	35	19	60.5	ESE, NE	2.3	2.3	Ci.	SE	Cu.	E		☊ a. p.
Mean	761.70	25.7	33	19.7	69.4		2.3	4.6						
Total													3.9	

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*				*mm.*	
1	762.44	24.5	29.1	20.9	91.3	NW	1.7	4.8	A.-Cu.	S.-Cu.	NW		☊ a. ☋ p.
2	63.40	24.3	26.7	22.5	90.7	NW, NNW	3	7		S.-Cu.	NW		
3	63.04	23.8	26.8	21.8	91.2	NW	2	6.2	A.-Cu.	S.-Cu.	NNW		
4	62.96	23.9	29.3	18.7	90.3	NW	.8	3.3		Cu., S.-Cu.			☊² a.
5	63.29	24.7	31.2	19.4	86.7	S, NW	1.2	3.8	A.-Cu.	S.-Cu.	SE		☊² a.
6	63.51	25.1	31.4	20.5	88.7	SE, NW	1.2	4.8	A.-Cu.	S.-Cu.	S	7.6	●° p.
7	63.42	25.2	32.6	19.4	86.7	Variable	1.3	7.2		Cu., N.		.8	● a.
8	63.33	24.7	29.4	20.2	86.5	SE, NW	1.5	6.7	Ci.-S., A.-Cu.	Cu., S.-Cu.			
9	62.66	25.2	30	21.5	90	NW quad.	1.5	7.8	Ci.	S.-Cu.	SE		☋° ☊ ≡ a.
10	61.68	25.2	31	19.7	88.8	NW	1	1.7	Ci.	Cu., S.-Cu.			☋² ≡ a.
11	61.57	25.4	31.4	19.9	85	SE, NW	1.3	1.2		Cu., S.-Cu.			☊² ≡ a.
12	60.64	26	35.4	20.5	76.3	Variable	1.3	2.5		Cu.			☊² a.
13	59.65	26.7	34.8	20.5	71.2	SE	1.5	.7		Cu., S.-Cu.			
14	59.71	25.2	30.2	19.5	82.8	NW	1.2	1.2	Ci.	Cu.			☊ a.
15	59.56	25.5	32	20.2	83.8	E, NW	1.3	3.3	Ci.	S.-Cu.	S		☊² ≡ a.
16	59.73	26.4	34	20.6	83	NW quad.	1.2	2.3	Ci.	Cu., S.-Cu.			☊² ≡ a.
17	59.74	27.3	34.3	22.2	82.8	SW, NW	1.2	3.3	Ci.	Cu., S.-Cu.			☊°≡° a. ☇° p.
18	60.16	26.9	33.5	22.6	86.5	Variable	.8	5.3	A.-Cu.	Cu., S.-Cu.			≡° a.
19	61.28	26.6	33.2	22.7	82.5	SE, NW	1.7	1.7	Ci.	Cu., S.-Cu.			
20	61.15	27	34.5	21.8	70.8	SE, S	2.3	3.7	Ci.	Cu., S.-Cu.			
21	61.19	26.6	34.3	23.3	76.8	S	1.5	6.8	A.-Cu.	S.-Cu.	SE		
22	61.42	26.1	33.7	22.6	87.2	NW	1.5	5.8	A.-Cu.	S.-Cu.	SE		
23	60.56	26	34.4	20.3	83.7	NW	1.3	2.5	Ci.-S.	S.-Cu.			☊² ≡ a.
24	59.49	27.2	35.9	21.8	81.2	S	1.5	2.8	Ci.	Cu., S.-Cu.			☋° p.
25	59.93	27	36	20.4	74.5	S quad.	1.7	1.8	Ci.	Cu.			
26	59.90	26.6	35.7	21	76.8	SE	1.3	2.2	Ci.				
27	59.36	26.4	35.8	19.8	80	SE quad.	1.7	.5	Ci.	Cu.			
28	59.33	26	33	20.4	79.5	E, NW	1.2	2.7	Ci.	Cu., S.-Cu.			☊² ≡° a.
29	59.14	26.9	34.8	22	73.2	Variable	1.5	1.2	Ci.	S.-Cu.			
Mean	761.15	25.8	32.6	20.9	83.1		1.5	3.6					
Total												8.4	

Meteorological data for first and second class stations—Continued.

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 9.7 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Wind. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	762.65	24.7	27.1	23.4	85	NNE, N	5.2	9.7	A.-Cu.	Cu. NNE		☇° p.
2	63.67	23.7	26.3	22.2	80.7	N	5.8	10		N.-cf. NNE		☊° a. ☇° a. p.
3	63.23	24	28.1	22.1	76.8	NNE	4.7	10	Ci.-S.	S.-Cu. N		☊° ☇° a. ☋° p.
4	62.84	23.7	29.2	18.6	84.8	N quad.	2.2	4	Ci.	S.-Cu.		☊2 ☌ ≡a.
5	63.17	24	30.5	18.6	82	SE quad.	2	4.3	Ci.	S.-Cu.		☊2 ☌° ≡° a.
6	63.43	24.6	31.5	19.5	81.2	S, NNE	3	8.2	Ci.-S.	Cu. N		☊2 ≡° a. ☋° p.
7	63.36	25.4	31.2	19.4	79.3	S, NNE	3	4.8	Ci.	S.-Cu.		☊ ≡° a.
8	63.40	24.6	29.9	19.9	82	N quad.	2.8	10	Ci.-S.	Cu. NW, NNE		☊ ≡° a.
9	62.80	24.8	28.3	23.5	81	NNE, N	4	10	Ci.-S.	S.-Cu. NNE		☋2 d° a.
10	61.70	25.9	30.6	23	81	NNE	2.8	7.5	Ci.-S.	Cu. NNW		
11	61.53	25.4	31.7	19.8	80.5	N quad.	3	3.3	Ci.	S.-Cu. N		☊ ≡° a.
12	60.44	25.7	32.6	20.2	78.5	SE quad.	2.3	1.8	Ci.	S.-Cu., Cu.		☊ ≡° a.
13	59.60	26	32.9	21.9	73.7	Variable	3.3	2.8	Ci.-S.	S.-Cu.		☊ a.
14	59.75	26.1	30.6	23	78.5	NNE	3.7	7.3	Ci.	S.-Cu. NE		d° a.
15	59.73	26.6	30.6	23.4	78.2	NNE	3.3	7.2	Ci.	S.-Cu. NNE		
16	59.84	26.4	32.9	20.2	78.7	Variable	2.8	3.3	Ci.	S.-Cu.		☊2 ☌ ≡° a. ☇ p.
17	59.90	27	33.4	21.7	80.5	N quad.	2.8	5.7	Ci.	S.-Cu. N		☊2 ☌° ≡° a.
18	60.21	26.8	31.4	23.4	83.5	N quad.	2.5	6.3	Ci.	S.-Cu.		☊ ☌° ≡° a.
19	61.35	26.5	31.4	22	78.2	SE quad.	3	4.7	Ci.	S.-Cu.		☊ a.
20	61.09	26.8	32.4	22.1	65.7	E quad.	3.8	5.5	Ci.-S.	S.-Cu.		☊° a.
21	61.18	26.4	32.1	23.6	67.8	SE quad.	3	8	Ci.-S.	S.-Cu.		☊ p° a.
22	61.60	25.8	32.1	22	76.8	NNE	4	7.2	Ci.	S.-Cu. NNE		☊ a. ☇° p.
23	60.73	26.3	32.9	22.9	76.7	NNE	3.5	5.7	Ci.-S.	S.-Cu.		☊° a.
24	59.51	26.8	33.4	22.5	74.2	SE, WNW	2.8	6.3	Ci.-S.	S.-Cu. NW		☊ a.
25	59.86	26.6	33.9	21.9	70.7	SE quad.	2.7	8.8	Ci.	S.-Cu., Cu.		☊ a.
26	59.82	25.8	33.1	21	72.7	SE quad.	3	9.5	Ci.	S.-Cu.		☊ a.
27	59.48	25.9	31.9	20	77	SE	2.7	3.8	Ci.	S.-Cu.		☊ ≡° a.
28	59.44	26	32.5	20.9	75.2	SE quad.	2.7	4.8	Ci.	S.-Cu.		☊2 ☌° a. ☾° p.
29	59.13	27.4	33.1	22.6	70.5	Variable	3.2	3.8	Ci.	S.-Cu., Cu.		☊° a.
Mean	761.19	25.7	31.3	21.6	77.6		3.2	6.4				
Total												

BAGUIO.[a]

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1,512.5 meters; gravity correction not applied, —1.65 mm.]

	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	638.78	16.2	22.9	13.5	87.5	W quad.	1.5	6.4		S.-Cu. NE	1.6	p ● ≡° p.
2	39	15.2	19.6	13	86	W quad.	1	5.6		S.-cf. E		☊2 a. ≡° p.
3	38.58	15.1	21.2	11.8	84.8	E	1.3	5.4		Cu.		☊ a. ≡2 p.
4	38.98	15	19.8	12.3	85.3	E	1.3	6.1	A.-Cu.	Cu., S.-cf.		☊ a. ≡ p.
5	39.54	15.8	22	12.1	83.7	E	1.3	6	Ci., A.-Cu.	S.-Cu. ESE		☊ a. ≡ p.
6	39.80	16.2	21.8	13	84	W quad.	1.3	7.6	Ci.	S.-Cu. NNE		☊ a. ≡° p.
7	39.73	15.7	22.3	13	86.2	E, ESE	1.3	9	A.-Cu.	S.-Cu. E		☊ a. ≡ p.
8	39.40	15.3	21.3	12.5	89.3	E, SW	1	9.7	A.-Cu., Ci.-S.	S.-Cu. EbyS		≡° p.
9	38.83	16.1	21.2	12.3	84.3	SE quad.	1	8.4	Ci.-S.	Cu.		☊ a. ≡ p.
10	38.33	17.2	23	13.5	75.7	SE	1.5	6.3	Ci. WSW	Cu.		☊ a. ≡° p.
11	38.48	16.9	23.5	13.5	84	SE quad.	1.5	4.3		S.-Cu.		☊ a. ≡ p.
12	37.78	17.2	23.2	13.5	79.3	SE quad.	1.7	4.6	Ci.	Cu.		☊° a.
13	36.80	17.2	24.2	13	69.8	E quad.	1.8	.4		Cu.		☊ a.
14	36.78	16.9	23.2	12.7	81.3	E, WSW	1.2	3.7	Ci.	Cu.		☊ a. ≡° p.
15	37.08	18.1	24.8	13.4	78.3	E, WSW	1.3	5.4	Ci.	Cu.		☊ a. ≡ p.
16	37.54	19	25.5	14.8	76	E	1.3	2.9	Ci.	Cu.		☊ a.
17	37.70	18.8	25.8	14.1	84	NE, WSW	1	4.4	Ci.	Cu.	1.3	☊2 a. ≡ a. p.
18	38.02	18.6	24.2	15.5	80	W, E	1.3	8.9	A.-Cu.	S.-Cu.		● a.
19	38.63	17.2	24.8	14	73	E	2.3	5	Ci.	S.-Cu., Cu.		☌ a. ≡° p.
20	38.26	16.8	23.6	13.2	64.7	SE, ESE	3.5	2	Ci.	Cu.		
21	38.33	17	23.9	14.3	73.5	SE quad.	2.7	8.7	A.-Cu.	S.-Cu. SE		●° a.
22	38.42	17.2	22.3	14.9	82.3	E quad.	1.7	8.1	A.-Cu.	S.-Cu. ESE		≡2 p.
23	38	18.7	24.4	14.2	62	E, SE	2	2.6	Ci.	Cu.		
24	37.17	18.2	24.6	14.5	76.5	E	1.8	4	Ci.	S.-cf. SbyW		≡° p.
25	37.46	19.1	25.4	15.3	49.8	ESE	2.2	3.3	Ci.	Cu.		
26	37.40	19.2	24.6	15	53.7	E, SE	1.8	3.1	Ci.	Cu.		☌ a. p.
27	36.92	19.8	26.7	15.4	44.7	SE quad.	2.5	2	Ci.	Cu.		☌ a. p.
28	36.85	17	23.4	12.6	80.2	Variable	1	5.3	Ci., Ci.-S.	Cu. ENE		☊ ☌ a. ≡° a. p.
29	36.89	18	25.3	14.4	69.2	E, SE	1.7	3.7	Ci.	Cu. ESE		☌ a. ≦° p.
Mean	638.12	17.2	23.4	13.6	76.2		1.6	5.3				
Total											2.9	

[a] The barometric readings of this station are not reduced to sea level.

Meteorological data for first and second class stations—Continued.

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 14.7 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.		Clouds. Prevailing form and its direction. Lower.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	762.81	22.7	25.9	20.2	94.3	NNE	3	3.2	A.-Cu.	SE	Cu.	NNE		☊ a. ☄° p.
2	64.05	22	25.4	19.9	93.5	NNE	3.5	7.7	A.-Cu.	ESE	Cu.	NNE		☊ a.
3	63.26	22.4	26	18	92.7	N quad.	1.7	3	A.-Cu.		Cu.			☊ ☰° a.
4	63.03	23.4	28.8	17.7	88.7	NNW, NE	.8	3.8	A.-Cu.	ESE	S.-Cu.			☊° a.
5	63.36	24.5	30	20	82.3	NW quad.	.5	4.7	A.-Cu.	S	S.-Cu.			☊ a.
6	63.75	24	29.6	20.3	88.7	N quad.	1	4	A.-Cu.	S	Cu.	SW		
7	63.86	24.3	29.7	18.8	82.8	NW quad.	.8	4.3	A.-Cu.	SE	S.-Cu.			
8	63.68	24.3	29.7	21.2	89.3	N quad.	1.5	5.2	Ci.	SW	Cu.	NW		
9	62.99	23.5	28	20.5	92.5	N quad.	1.3	5.3	Ci.	SW	S.-Cu.	ESE		☊° a.
10	61.78	24.8	30.2	20.8	91.8	Variable	.7	3.7	Ci.	SW	Cu., S.-Cu.	ESE		☊ ☰° a.
11	61.84	24.9	30.3	20.7	91	Variable	.8	1.3			Cu.	NW		☊ a.
12	60.64	25.8	31.3	20	83.7	SW quad.	.5	1.2	A.-Cu.		Cu.	NW		
13	59.84	25.8	30.6	22	83	Variable	1	2	A.-Cu.		S.-Cu.			
14	59.86	25.1	31	20.9	79.7	N quad.	1.5	.8	Ci.		Cu.	NNW		
15	59.78	25.2	32.1	20	78.7	Variable	.7	.7	Ci.		Cu.			
16	60.10	26	33	20.7	80.7	NW quad.	.7	.8	Ci.-S.		S.-Cu.	NW		
17	59.96	25.8	32.3	19.9	84.3	N quad.	.8	.8	A.-Cu.	SW	S.-Cu.			
18	60.33	26.1	33.8	20.9	85.2	NNW	.7	3	A.-Cu.	SSW	S.-Cu.			☊² ☰° a.
19	61.39	27.8	32.8	22	62	NE	1.7	.5	Ci.-S.		S.-Cu.			☌² p.
20	61.17	28.6	35.3	24.1	56.2	NE	2.3	.5	Ci.		S.-Cu.			
21	61.53	26.1	31	22	71.8	NW quad.	.7	6.3	A.-Cu.	S	Cu.-N.	SE		☊ a. d° p.
22	62.15	25	30.8	22	81.2	NW quad.	1.7	7	A.-Cu.	SE	Cu.	NNW		d° a.
23	60.90	25.3	31.4	19.4	84.3	N quad.	1.7	6.5	A.-Cu.	SW	Cu.	NW		
24	59.74	26.2	30.1	23.1	86.8	S quad.	1	4.2	A.-Cu.	SW	S.-Cu.			
25	60.28	25.9	30.7	21.8	87.3	NW quad.	.7	2.3	A.-Cu.		S.-Cu.	NNE		☊° a.
26	60.16	25.8	31	22	85.8	NW quad.	.8	4	Ci.	WNW	Cu.	SSW		☊° a.
27	59.68	25.6	30.3	21.5	83.3	SW quad.	.7	3	A.-Cu.	ESE	Cu.	W		
28	59.90	26.4	33.1	22.2	73.8	N quad.	.5	3	A.-Cu.	ESE	S.-Cu.	SW		
29	59.52	26.2	31.1	21.4	81.2	NW quad.	1	2.7	A.-Cu.	ESE	Cu.	WNW		
Mean	761.43	25.2	30.5	20.8	83.3			1.2	3.3					
Total														

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	763.73	22.2	27.6	19.5	92.8	N	1.2	9.7			Cu.-N.	N		p a. d p.
2	64.12	22.6	28.2	19.7	85.2	NE	1.3	6.8			Cu.-N.	N		d a.
3	64.14	22.6	29	18.5	86.3	NE, NW	1.3	7.8			S.-Cu.	N		☊° a.
4	65.35	22	27	19.5	87.8	NW	2.7	9.3	Ci.-S.		Cu.-N.	N		d a.
5	65.84	21.6	27.4	19	86.2	NW	1.5	8.5			Cu.-N.	N		d a.
6	65.05	23.4	31.3	18.4	81	NE	.8	7			Cu., S.-Cu.	NW, N		☊² a.
7	65.27	23.1	30	18.6	79.8	SW	.8	6.8			Cu., S.-Cu.	S, NW		☊° a.
8	63.94	23.6	32.3	17.5	81.7	N	1	3.2	Ci.		Fr.-Cu.	NE		☊² a.
9	63.38	24.5	31.6	19	83.7	NW	.8	4	Ci.		Cu.	S		☊² a.
10	62.47	25.3	32.7	20.6	80	S quad.	.8	6.5	Ci.		S.-Cu., Cu.	SW, S		☊² a.
11	62.24	25.8	33.3	21	82.3	NE	.7	5.3	Ci.		Cu.	SE, W		☊² a.
12	62.12	24.4	30.1	19.2	83.8	S	.2	5.5	Ci.-S.		Cu.-N.	S		☊² a.
13	60.38	25.8	33.9	19.6	77.2	S quad.	1	1.3			S.-Cu.			☊² a.
14	60.40	25.6	34	19.5	79.5	NW	.5	2			Variable			☊² a.
15	60.77	24.6	33	19.6	82.3	S	.2	4.3			Cu.	NE, E		☊° a.
16	60.78	25.7	34.3	19	79.5	Variable	.5	2.8			Cu.	S		☊² ☰° a.
17	60.49	26.4	35.4	20.7	78	NW	.8	3.2			Cu.	NW		☊² a.
18	61.95	26.1	32.7	22	78.5	NW	1.3	6.2			Cu.	N		d² a.
19	64.20	24.9	32.5	20.5	74.8	N quad.	1	8			S.-Cu.	N		☊² a. d° p.
20	65.10	23.4	29	19.4	83.8	Variable	1	7.7			S.-Cu.	N		
21	63.71	25	32.1	20.6	77	S	.7	5.8			Cu.	S		☊² a.
22	62.27	24.8	34	21	79.8	Variable	1.5	7.8			Cu.-N.	S, NE		☊° a. d° p.
23	62.07	25.3	34	20.2	80.3	Variable	.7	6.5			S.-Cu.	E		☊° a.
24	60.37	26.6	34.6	20.4	76.5	S	.7	3.7			Variable			☊² a.
25	60.90	25.6	35.3	17.6	74	S quad.	.8	0						☊² a.
26	60.57	26	35.8	18	71.2	S	.8	.5	Ci., Ci.-S.					☊² a.
27	60.18	25.8	35.7	18	74.8	SE	1.2	0						☊° a.
28	60.02	26	36.3	18.2	72	N quad.	.8	2.5	Ci.-S.		Fr.-Cu.	S		☊² a.
29	60	26.8	36.2	21.1	70.7	SE	.7	.5	Ci.					☊² a.
Mean	762.48	24.7	32.4	19.5	80		.9	4.9						
Total														

Meteorological data for first and second class stations—Continued.

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity. (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	763.66	22	24.4	20.4	90.5	NE	2	10		N. NE	15.5	● a. ●° a. p.
2	64.23	22.8	25.4	20	77.2	N	2	7.8		Cu.-N. N	3.3	●° a.
3	64.18	21.6	24.6	19.7	85.3	NE quad.	2.5	10		N. NE	12.9	● a. p.
4	65.61	20.7	23.7	19.1	84.5	E	2.3	10		Cu.-N., S.-Cu. E	2.3	● a.
5	65.90	21.2	24	18.6	84.8	E	2	9.7	A.-Cu. W	S.-Cu. E	-------	●° a.
6	65.34	22	26.3	19.6	84.3	E, NE	1.2	9.2	A.-Cu. W	S.-Cu. E	-------	
7	65.15	21.9	26.4	18.6	80	Variable	.8	5.7	A.-Cu. S, W	S.-Cu. S	-------	
8	63.99	22.9	27	19.6	81.2	Variable	1.2	2.3	A.-Cu. SW	S.-Cu.	6.1	
9	63.35	23	27.2	20.6	86.2	N	.7	6.3	Ci. SW	Cu.-N. E, N	-------	● a.
10	62.35	23.4	27.8	20.8	84	E quad.	.8	5.3		S.-Cu. E	.5	≡° ●° a.
11	62.19	24.4	29	20.6	82.2	E, NE	1	1.2		S.-Cu. SW	-------	⌓ ≡° a.
12	61.98	23.4	26.5	21.6	85.5	E	1	6.8		S.-Cu. E	3.3	● a.
13	60.03	25.1	30.5	21.4	75.3	Variable	1.2	.7		S.-Cu.	-------	
14	60.44	25	29.1	21.4	76.8	N	.8	.5		S.-Cu.	-------	
15	60.72	23.9	28.5	20.1	83.3	N, E	1	2.7	Ci.	Cu.-N. E	-------	
16	60.64	24.1	29.4	20.6	85.5	E	1	3	A.-Cu. SE	S.-Cu.	-------	⌓ ≡° a.
17	60.81	25.6	30.2	21.6	83	E, NE	.7	2		S.-Cu.	-------	⌓ ≡° a.
18	62.32	25	28.1	23.5	78.7	E, NE	1.3	7.3	A.-Cu. SW	S.-Cu. E	-------	
19	64.74	24	28	20.5?	78.3	E, NE	2.3	7		S.-Cu., Cu.-N. E	4	●° p.
20	65.33	22.5	25.5	20.1?	75.3	E	3.2	8	A.-Cu. SE, S	S.-Cu. E	-------	
21	63.34	23.6	27.7	20.4	78.7	E	1.2	4.3	A.-Cu. S	Cu.-N. SE	-------	
22	62.20	23.7	29.4	20.3	84.7	S, N	1.5	8	A.-Cu. S	Cu.-N. SW	8.2	◠ a. ● a. p.
23	61.80	23.4	29.5	19.6	82.8	Variable	1.3	5.2	A.-Cu. SW	Cu.-N., S.-Cu.	-------	
24	60	25	31	20.1	78.8	E	1.3	2.3	A.-Cu. SW	S.-Cu.	-------	
25	60.41	24.8	32	20.2	73	S, E	1.5	0			-------	∞ p.
26	60.28	24.1	31.5	20.6	78.5	S, NE	1.3	0			-------	∞ a. p.
27	59.70	24.7	31.2	19	79.2	Variable	1.3	0			-------	
28	59.96	24.7	31	19.1	82	Variable	1.2	0			-------	⌓ a.
29	59.72	24.8	30	21.3	81.2	S, E	1.3	0			-------	⌓ ≡° a.
Mean	762.43	23.6	28.1	20.3	81.4	-------	1.4	4.7	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	56.1	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.3	20.1	95	73	5	6	.....	
2	30.6	19.8	96	74	4	6	.....	☊ ☰° a.
3	30.4	23.2	88	76	5	7	.....	
4	30.7	24.1	92	76	6	5	.....	d a.
5	30.6	23.5	88	78	4	7	.....	
6	31.5	21.5	97	68	5	7	.....	☊ ☰° a.
7	31.4	23.2	92	73	8	6	.....	
8	31.4	21	91	71	5	5	.....	
9	30.2	20.4	99	83	2	5	.....	☊ a.
10	30.5	22	80	73	5	7	.....	☊ a. d° p.
11	31.6	22.9	96	80	6	6	.....	d° p.
12	30.5	21.7	96	84	4	6	.....	☰° d a.
13	30.2	20	96	78	6	5	.....	☊° a.
14	31.5	20.1	97	78	5	6	.....	☊° a.
15	31	21.3	96	83	6	7	.....	☊ ☰° a. d ● ◝ p.
16	30.5	21.3	96	79	3	6	.....	☊ ☰° a. p p.
17	28.9	20.5	96	79	3	8	3.6	☊ ☰° a. ●² p.
18	30.5	21	98	83	7	8	.....	☊ ☰ a. [¼ p.
19	31.6	22.5	97	76	8	5	.....	☊° a.
20	31.3	21.5	.....	60	7	5	.....	☊° a.
21	32.5	20.2	95	73	5	5	.....	☊° ☰° a.
22	31	21.4	95	74	5	7	.....	☊° a.
23	31.5	21	95	69	4	5	.....	☊° a.
24	30.7	20.6	93	75	4	5	.....	☊° d a.
25	31.3	20.6	96	72	4	5	.....	☊° a.
26	31.2	21	91	78	5	5	.....	
27	31.2	21.5	97	85	5	4	.....	☊° a.
28	33	22.8	96	78	5	5	.....	
29	29.8	22.1	94	93	8	10	65.8	●² a. ●° a. p.
Mean	30.9	21.5	94.2	76.6	5.1	6	.....	
Total	.....	.....	.....	.....	.....	.....	69.4	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.8	20.6	91	64	0	3	.....	☊° a.
2	30.8	21.5	94	70	0	4	.....	☊° a.
3	31.1	21.6	95	68	0	3	.....	☊° a.
4	31.3	22.1	94	66	9	2	.....	☊ a.
5	.....	22.6	97	64	1	2	.....	☊ a.
6	30.8	20.6	98	74	10	9	.....	☊ d ◠ a.
7	30.3	21.9	79	56	1	10	.....	☊ a.
8	32.3	20.5	96	53	0	2	.....	☊ a.
9	.....	20.6	91	62	10	4	.....	☊° a.
10	31.9	20.6	89	64	0	5	.....	☊° a.
11	32.3	21.9	94	75	10	9	.....	☊° a.
12	34	22.1	96	63	1	3	.....	
13	30	19.5	92	76	0	3	.....	
14	31.3	20.1	95	68	2	6	.....	☊ a.
15	26.3	19.1	79	93	10	10	4.3	┬ ● p.
16	30.2	21.3	100	92	2	10	13.5	☊ a. ● p.
17	29.8	21.1	96	75	0	9	.....	☊ a.
18	29.8	22.4	96	83	1	8	.....	☊° a.
19	31.2	22	96	68	10	6	.3	☊° a. ●° p.
20	.....	22.6	97	54	4	5	.....	☊ a.
21	.....	20.1	93	62	1	4	.....	☊ a.
22	33.9	21.1	94	67	9	3	.....	☊° a.
23	34.8	20.4	91	67	1	3	.....	☊² a.
24	.....	20.8	96	65	10	5	.....	☊° ◠ a.
25	30.8	20.6	96	67	0	5	.....	☊ a. ◠ p.
26	.....	21.6	97	63	2	3	.....	☊° a.
27	33.8	22.1	96	50	2	4	.....	☊° a.
28	32.3	22.1	93	64	10	4	4.3	☊° a.
29	33.3	22.4	98	76	10	7	6.4	● ◝ a.
Mean	31.5	21.2	93.8	67.9	4	5.2	.....	
Total	.....	.....	.....	.....	.....	.....	28.8	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6. a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.8	20.4	86	73	1	1	.....	☊° a.
2	31	20.4	84	79	1	1	.....	
3	29	20	91	71	1	2	.....	☊° a.
4	30	23	85	75	7	2	.....	
5	31.8	22.6	88	68	6	3	.....	
6	29.2	22	89	81	10	10	.....	d a.
7	31.1	22.5	90	63	6	8	.....	
8	.....	.....	76	.....	2	.....	.....	
9	.....	.....	.....	.....	.....	.....	.....	
10	29.5	.....	88	75	7	1	.....	
11	29.5	22	87	72	7	9	.....	
12	31.3	23.4	91	77	6	2	.....	
13	31	21.5	88	76	2	6	.....	
14	30.2	22	90	71	9	8	.....	
15	28	24.5	83	91	9	10	0.8	d p.
16	31.9	22.5	91	73	4	7	.....	
17	29.5	23.2	89	83	6	3	.....	
18	29.1	22.4	92	80	3	7	.....	d a.
19	29.4	22.4	91	77	9	8	.....	
20	31.5	23	90	50	5	4	.....	
21	32.2	20.6	86	76	2	3	.....	
22	32.1	22.4	77	49	9	4	.....	
23	32.6	22	79	61	3	2	.....	
24	31	22.5	86	57	9	5	.....	
25	30	21	87	70	1	8	.....	d p.
26	32.5	23.2	88	71	6	2	.....	
27	32	23.1	84	68	6	9	.....	d a.
28	31	24.8	77	60	9	5	9.7	● p.
29	31.8	22.9	96	72	7	2	7.9	◠ a.
Mean	30.6	22.3	86.8	71.1	5.5	4.9	.....	
Total	.....	.....	.....	.....	.....	.....	18.4[1]	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	21.6	96	66	6	7	.....	
2	31.8	19.7	95	63	5	7	.....	
3	33.2	21.5	94	60	7	5	.....	
4	32.4	21	93	58	6	6	.....	
5	32.7	20	91	53	5	6	26.8	● p.
6	30.2	22.2	96	64	5	8	.....	
7	31.3	21.5	96	57	7	6	.....	
8	31.6	21.8	97	64	5	7	.....	
9	31	21.7	98	60	6	5	.....	
10	31.6	20.7	99	62	7	6	.....	
11	31.9	19.5	95	62	5	7	.....	
12	31.7	18.6	91	64	6	5	.....	
13	32.2	21.5	96	60	5	6	.....	
14	32.2	22	97	59	6	7	22.1	● p.
15	31.8	22.5	97	67	6	5	.....	
16	31.3	21.8	96	68	6	5	.....	
17	32.5	22.1	96	68	7	6	.....	
18	33.7	21	96	54	5	5	.....	
19	31.7	22.3	96	67	6	7	.....	
20	32.3	21.7	96	60	5	6	.....	
21	32.5	21.9	97	64	5	7	.....	
22	33.2	21.1	96	62	6	5	.....	
23	34.1	21.8	89	45	6	7	.....	
24	33.7	18.2	91	55	6	5	.....	
25	27.1	22.5	96	85	5	9	.....	d p.
26	32.8	21.2	96	52	7	6	.....	
27	31.7	21.2	91	60	5	7	.....	
28	31.7	21.5	96	63	6	7	.....	
29	30.7	21.5	96	62	5	5	17	● p.
Mean	32	21.2	95.1	61.5	5.8	6.2	.....	
Total	.....	.....	.....	.....	.....	.....	65.9	

[1] 27 days of observation.

Meteorological data for third and fourth class stations—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.4	22	96	59	7	6	.....	☊ ☰° a.
2	33.6	21.2	95	63	5	6	0.5	☊ ☰° a.
3	33.8	21	92	61	6	5	.....	d a. ☋ ☋ p.
4	33.9	22.4	92	59	6	5	.....	☊ a. ☇ p.
5	34	22.1	91	57	4	5	.....	☊° a. ☇ p.
6	31.2	22.8	94	62	10	7	10.2	d a. ● a. p. ◠² p.
7	33	22.1	93	59	9	6	.....	
8	32	20.5	91	64	3	8	.....	☊² a. ☇ p.
9	33.4	22.9	91	66	9	7	.....	☇ p.
10	33.5	21.8	96	65	7	5	.3	☊ a. ☈☿² d p.
11	34.2	22	91	60	5	4	.....	☇ p.
12	34.4	20.6	87	58	3	3	.....	☊ a. ☇ p.
13	33	22.4	90	59	6	7	.....	☊ a.
14	33.6	23	90	61	8	7	.5	d p.
15	33.2	23	93	69	7	6	.....	┬ p.
16	34.2	23	95	60	5	6	.....	☊ ☰° a.
17	34.3	22.9	91	60	7	7	.....	☊ a. ☈☿ p.
18	34	23.4	93	57	5	6	.....	☊° a. ☈☿ p.
19	32	23	91	79	6	9	10.7	☊° a. ☈☿ ● p.
20	33.6	21	91	55	7	5	.....	☇ p.
21	34.8	22	92	58	7	7	.....	☊° a. ☇ p.
22	33.6	21.9	91	58	4	5	.....	☊° a.
23	34.9	23	90	55	8	6	.....	
24	35	19.2	94	56	2	6	.....	☊² a.
25	29.2	22	91	84	8	10	.8	◠° a. d ●° p.
26	32.8	22.5	94	62	7	6	.....	☊ a.
27	33.5	21.9	87	57	8	7	.5	☋ ☋ p.
28	32.5	23	95	60	9	7	1.1	d a. p. ●° p.
29	32	22.9	91	81	5	9	1	●° a. d p.
Mean	33.3	22.1	92	62.2	6.3	6.3	.....	
Total	.....	.....	.....	.....	.....	.....	25.6	

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.8	20	92	69	2	3	.....	☊ a.
2	30	19.3	90	68	1	3	.....	☊ a.
3	30.9	23.6	89	71	3	2	.....	☊ a.
4	29.9	21	86	68	2	3	.....	☊ a.
5	30.6	20.6	91	61	0	2	.....	☊² a.
6	30.5	23.5	94	65	7	4	.....	☊ a.
7	31.6	22.4	89	54	3	4	.....	☊ a.
8	30.5	21.1	84	62	8	7	.....	☊ a.
9	29.4	23.5	87	71	3	6	.....	☊ a.
10	31	21	91	61	1	7	1.3	☊² a. d p.
11	30.3	20.5	93	62	2	2	.....	☊² a.
12	30.8	19.4	83	57	1	2	.....	☊ a.
13	31.2	22.2	86	64	3	3	.....	☊ a.
14	28.4	23	86	75	10	9	.....	☊ a.
15	30.7	22	94	68	3	2	.....	☊ a.
16	31.7	22.6	91	71	2	3	.....	☊ a.
17	31.1	21.9	88	71	1	2	.....	☊° a.
18	31.3	21.6	84	72	1	6	.3	☊² a. d p.
19	30.7	22.7	89	70	10	4	.....	☊ a.
20	32.5	20.2	78	54	7	8	.....	☊² a.
21	34	22	81	49	1	3	.....	☊ a.
22	31.2	20.9	83	52	1	1	.....	☊ a.
23	32.2	20.9	85	50	2	3	.....	☊ a.
24	31.7	17.5	.....	67	2	5	.5	☊ a.
25	27.6	22.1	85	83	10	10	11.2	d a. p.
26	32	21.4	92	63	3	4	.....	☊ a.
27	31.3	21.3	86	65	1	4	.....	☊ a.
28	30	22.8	93	75	2	10	.....	☊ a. d° p.
29	31.4	22.5	89	63	3	7	.....	☊ a.
Mean	30.8	21.5	87.8	64.9	3.3	4.4	.....	
Total	.....	.....	.....	.....	.....	.....	13.3	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.3	21.2	99	63	10	5	.....	☊ ☰² a. ◠ p.
2	28.6	20.2	95	64	10	3	15.5	☊ ☰° a. ◠ p.
3	28.1	22.7	97	70	3	4	1.3	● a. ●° ☋ p.
4	28.3	22.1	96	81	4	7	4.9	● a. d ●° p.
5	28.7	22	90	81	7	8	15.5	☊ ☊ a. ● p.
6	27.8	22.6	97	71	6	8	3.8	☊ d° ●° a.
7	28	21.1	96	64	10	5	.....	
8	27.3	20.6	94	75	9	4	2.3	☊ a. ● p.
9	27.6	22.7	91	75	8	8	3.3	☊ d° a. ●° a.
10	28.7	21.3	95	90	7	8	6.9	☊ a. ● a. p.
11	29.3	21.5	92	65	0	2	.....	☊ a.
12	28.5	19.7	94	63	1	7	.....	☊ a.
13	28.8	22.5	89	61	5	4	7.1	☊ a. ● p.
14	26.3	23.4	96	88	10	10	28.7	d° a. ● a. p.
15	29	22.2	96	78	2	8	3.8	☊ a. ┬² ●° p.
16	29.8	23.3	92	69	3	6	4.3	☊² a. ● ◠ p.
17	29.3	23	91	83	7	9	8.1	☊ ●° a. ● p.
18	28.6	21.4	96	92	1	10	11.2	☊² a. ┬ ● p.
19	28.9	22.5	96	74	10	3	5.6	● a.
20	29.1	21.2	94	80	9	8	.5	☊ a. ● ☇° ◠² p.
21	29.1	22.3	87	73	3	7	.....	☊ d a.
22	29.2	22.4	87	64	1	5	.....	☊ a. ☋ p.
23	30.3	21.4	94	48	1	2	.....	☊ a. ☇° a. p.
24	29.5	20.9	87	71	2	7	3	☊ a. d ●° p.
25	28.1	23	93	82	10	7	4.8	d° a. ●° a. p.
26	29.5	22.8	94	78	9	5	1	☊ d° a. ●° p.
27	28.7	22.2	91	69	4	7	2.8	☊ a. ●° a. p.
28	26.7	22.9	93	88	8	10	4.6	☊ a. ●° a. p.
29	28.1	22	96	84	8	9	11.6	☊ ●° a. ● p.
Mean	28.6	22	93.4	73.9	5.8	6.4	.....	
Total	.....	.....	.....	.....	.....	.....	150.6	

DUMAGUETE.

[ϕ=9° 18′ N; λ=123° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.8	22.4	87	71	10	2	.....	d a.
2	29.6	21.5	84	67	2	3	3.6	☊ a.
3	29.9	21.1	86	70	4	7	.....	●° a.
4	27.9	22.6	86	88	8	10	2.8	◠° a. ●° a. p.
5	28.8	21.6	.....	97	10	10	6.3	◠ a. ● p.
6	29.8	22.9	82	64	10	10	.....	
7	28.3	22.9	74	69	10	10	.....	
8	29.3	20.3	76	63	10	6	.....	
9	28.8	23.5	83	75	8	10	.....	
10	28.7	23.2	86	88	7	9	.7	☊ a. d p.
11	30	23.6	89	73	10	4	.....	◠° d° a.
12	29.3	23.8	77	69	10	4	.....	
13	29.7	21.7	81	76	9	10	.....	☊ a. d p.
14	31.3	21.4	83	61	10	10	.8	☊° a. d° ●° p.
15	29.2	24.7	91	72	10	3	1.5	●° a.
16	30.2	24.2	93	77	10	3	.....	☊ d° a.
17	30.4	23.9	83	74	9	2	.....	☊° a. ◠° ☇ p.
18	30.3	24.8	90	71	7	7	14.2	☊° a. ● ☇ p.
19	30.1	23.4	85	80	10	10	3.3	☊ a. ●° ☈☿ p.
20	29.3	23.2	.....	66	8	10	.....	
21	29.3	23.8	79	76	10	10	.....	d° a.
22	29.4	24.8	81	75	10	3	.....	
23	29.5	24.2	81	74	10	10	.....	
24	29.9	23.4	78	76	10	10	.....	
25	28.5	23.9	81	80	10	10	1.3	●° a.
26	29.3	23.6	85	77	10	10	.....	☈☿ ●° a.
27	29.4	24.1	82	77	10	7	.....	
28	30.6	24.8	73	67	10	10	.....	d° p.
29	29.2	23.2	78	97	10	8	8.9	● p.
Mean	29.5	23.2	82.7	74.8	9	7.5	.....	
Total	.....	.....	.....	.....	.....	.....	43.4	

Meteorological data for third and fourth class stations—Continued.

YAP (WESTERN CAROLINES).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.1	22.4	75?	76	10	8	0.8	☾ p.
2	30.1	23.6	82	73	8	8	.5	●☉ a. p.
3	29.9	23.6	90	90	10	10	3.6	●☉ p.
4	29.8	23.3	97	78	10	10	1.6	●☉ a. p.
5	29.2	23.9	88	68	5	8	1.3	d a. ●☉ p.
6	29.3	22.9	80	78	5	7	1.6	●☉ a. p.
7	29.8	24.1	83	70	9	7	.....	p a.
8	29.7	23.9	83	66	10	10	.....	p p.
9	29.7	.....	68	65	2	5	1.5	●☉ p.
10	30.3	.....	96	79	10	8	1.8	p☉ a. ●☉ p.
11	29.4	.....	89	92	10	10	4.3	● a. p. d☉ p.
12	29.6	23.6	96	79	10	7	22.1	●☉ a. ● d☉ p.
13	30	25	84	76	10	4	.....	☽ p☉ a. ☽☉ p.
14	29.5	24	81	68	9	0	.....	☋ a.
15	29.6	25.1	88	89	10	10	19.4	d a. ● p.
16	29.4	23	93	74	7	9	1	●☉ p.
17	29.2	23.9	80	65	10	9	.....	
18	29.4	22.7	78	63	10	9	.....	p☉ a.
19	29.5	.....	83	70	10	9	.....	
20	29.3	.....	77	64	10	10	.....	
21	29.5	.....	75	67	10	7	.....	☈ p.
22	29.5	.....	75	60	10	1	.....	
23	30.3	24.9	77	74	10	10	.....	
24	29.2	22.4	80	69	10	10	.....	p a.
25	29.3	23.8	77	74	9	10	.....	☾☉ p.
26	30	.....	78	65	10	8	2.5	p a.
27	28.4	.....	94	78	10	9	2.8	☽☉ ●☉ a. ☋ p.
28	29	.....	81	66	10	9	.3	●☉ a. ☋ p.
29	28.8	.....	76	70	10	9	.8	d☉ ●☉ a.
Mean	29.5	23.7	82.9	72.6	9.1	8	.....	
Total	.....	.....	.....	.....	.....	.....	65.9	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	27.7	19.7	96	76	3	3	.....	♌² a. ♌☉ p.
2	29	21.9	96	82	3	3	.....	♌ a.
3	28.4	21.9	96	82	4	4	1.8	♌ a.
4	26.3	22.5	97	93	9	10	17.7	● d☉ a. p.
5	28.4	22.6	97	83	8	7	13.6	d ● a. p.
6	28.9	23.2	82	75	6	7	.....	d☉ p.
7	29.1	.....	82	66	5	4	.....	d☉ a. ☌ p.
8	28.8	22.2	90	69	8	5	7.2	d a.
9	28.1	22.2	97	87	10	9	26.6	● a. p. d☉ p.
10	28.3	22.7	96	82	9	7	2.2	☰☉ d² a. ● d p.
11	30.1	21.5	96	74	3	5	.....	♌ a.
12	29.8	22.6	93	67	8	4	1.4	d☉ ● a.
13	30.2	22.3	95	70	4	6	13	d² a. d ● p.
14	26	23.4	94	96	10	10	29.5	● a. p. ☾☉ p.
15	29.1	22.3	97	85	5	4	.....	♌☉ a.
16	30.2	24.3	96	79	8	3	.4	d a.
17	29.2	23.4	96	81	10	9	4.6	● a.
18	28.1	22.2	96	80	8	9	19.1	♌ a. d ● a. p.
19	28.9	23.4	96	77	9	9	6.9	● a. d☉ a. p.
20	28.7	23.6	78	94	8	10	12.5	d² a. ● p.
21	29.7	23	92	73	8	8	1.3	● a. p. d p.
22	29.7	24.4	83	67	4	3	.....	
23	30.4	22.6	94	71	5	5	.....	♌☉ a.
24	29.2	21	94	79	4	6	6.8	d☉ ●☉ a. d² ● p.
25	29.4	23.9	92	74	8	4	4.1	● a. d☉ a. p.
26	29.4	23.7	92	74	7	4	.1	● d☉ a. ☌☉ p.
27	29.4	24.5	86	88	8	6	4.7	● d a. p.
28	28.9	24.4	88	81	8	7	12.5	● a. p.
29	29.7	23.6	93	85	10	8	11.7	●☉ a. d a. p. ● p.
Mean	28.9	22.8	92.4	79.0	6.9	6.2	.....	
Total	.....	.....	.....	.....	.....	.....	197.7	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.8	19.1	93	79	10	5	.....	
2	29	19	93	86	10	10	.....	
3	29.4	18.8	91	85	10	10	12.7	d p a.
4	29.9	19.8	86	83	10	10	48.3	d p a. ● p.
5	29.4	18.9	88	84	10	10	.....	d p.
6	30	18.8	88	75	10	10	.....	
7	30.2	19	93	76	10	9	.....	☾☉ p.
8	30.4	20	93	85	10	10	.....	
9	30	20	89	80	10	10	.....	
10	30.8	23.2	91	73	10	10	.....	d a. p. ☿☉ p.
11	31.4	22.3	93	71	10	6	.....	d p.
12	30	21.5	95	80	10	8	.....	
13	30.5	22	93	86	10	10	4.1	d² a. d a. p.
14	29.7	22.1	95	85	10	10	34.6	d p a. d ● p.
15	29.4	23	95	89	10	10	.....	
16	30.5	23	92	83	10	10	.....	
17	30.4	23.2	93	71	10	10	.....	☽ a.
18	30.5	22.2	93	83	10	10	9.7	p a. d ☿☉ p.
19	30	22	90	87	10	10	40.6	d ☿ a. ● a. p.
20	29.6	22.2	86	60	10	10	.....	d p.
21	29.4	23.9	91	81	10	10	.....	d a.
22	30.4	24	90	84	10	8	.....	♂☉ a.
23	30.4	22.6	90	83	10	10	.....	
24	30.3	21.6	91	71	10	10	10.2	d a. ● p.
25	30.5	23.4	88	78	10	7	.....	☋² p.
26	29.4	23	93	84	10	10	9.4	☽ d ● a. ☽ ☋ p.
27	30.6	22.2	88	85	10	8	.....	d ☽ a. ☋ p.
28	30.5	22.2	93	82	10	10	7.1	● ☋ ☈ p.
29	30.5	22.3	88	84	10	10	12.4	☽ p d a. d ☋ p.
Mean	30.1	21.6	91.1	80.4	10	9.3	.....	
Total	.....	.....	.....	.....	.....	.....	189.1	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.2	19.6	82	59	9	7	.....	
2	33	20.6	77	54	9	7	.....	
3	33.9	19.6	91	57	1	1	.....	♌☉ a.
4	34.3	21.2	87	64	5	10	.....	
5	33.4	24.6	76	65	10	10	0.5	d☉ ●☉ p.
6	34.3	21.6	86	53	9	5	.....	
7	34.8	21	67	48	0	0	.....	
8	34.3	18.6	73	48	0	1	.....	
9	34.2	19.5	76	50	6	5	.....	
10	33.3	22	72	62	10	10	.....	
11	34.7	22.8	90	58	7	9	.....	
12	34.3	21.1	95	53	5	5	.....	♌² a.
13	34.2	20.7	69	51	9	8	.....	
14	33.8	20.5	82	57	5	8	.....	
15	32.9	22.5	85	75	10	10	1.3	●☉ p.
16	33.4	22.5	91	69	6	8	.....	♌² a. ☿ p.
17	34.9	22.9	94	59	4	1	.....	♌² a.
18	35.2	22.5	80	61	8	1	.....	
19	33.1	22	86	65	10	8	.....	d☉ a. p.
20	34.3	23.9	79	62	4	10	.....	
21	35.3	21.6	82	57	6	7	.....	
22	35.8	21	74	53	0	0	.....	
23	34.3	19.5	81	50	9	9	.....	
24	35.3	21	91	51	10	9	.....	
25	34.4	22	88	58	7	9	.....	
26	35.3	20	87	53	1	1	.....	
27	35.3	20.5	85	57	0	3	.....	
28	35.8	20.4	73	54	0	0	.....	
29	35.8	21	83	51	2	3	.....	
Mean	34.4	21.3	82.1	57	5.6	5.7	.....	
Total	.....	.....	.....	.....	.....	.....	1.8	

Meteorological data for third and fourth class stations—Continued.

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	24.4	87	67	8	4	.....	☊° a.
2	29.9	24.5	85	69	7	3	.....	☊ a.
3	29.7	24.8	85	70	8	5	.....	☊ a.
4	29.8	24.9	83	64	8	7	.....	☊ a.
5	30.4	25.5	79	68	8	7	.....	☊° a.
6	29.9	24.9	84	62	8	8	.....	☊ a.
7	30.3	24.3	80	58	9	7	.....	☊° a.
8	30.8	24.1	78	56	10	2	.....	☊ a.
9	29.2	24.4	72	62	8	8	.....	☊° a.
10	29.6	25.3	84	69	10	7	.....	☊° a. ♆ p.
11	30.5	25.4	84	68	8	3	.....	☊° a.
12	29.6	23.6	86	72	8	8	.....	☊° a.
13	30.2	24.1	88	71	8	6	.....	☊° a.
14	29.1	24.6	83	67	8	5	.....	☊° a.
15	30.1	25	85	71	8	8	.....	☊° a.
16	30.8	25.4	86	74	8	5	.....	☊ a.
17	31.3	25.4	93	67	8	7	.....	☊ a.
18	30.8	25.7	89	66	8	2	.....	☊ a. ≶² p.
19	29.9	25.5	84	66	8	7	.....	☊ a.
20	28.7	25.1	80	79	8	10	.....	☊ a. d p.
21	30.7	24.6	85	69	8	6	.....	☊ a.
22	31.3	23.1	91	61	8	2	.....	☊² a.
23	30.4	25	86	62	9	7	.....	☊ a.
24	31.9	24.7	88	66	8	7	.....	☊ a.
25	30.5	25.4	81	66	9	6	.....	☊ a.
26	31.2	24.7	80	59	10	3	.....	☊ a.
27	31.4	24.6	88	64	9	6	.....	☊² a.
28	31.2	24.6	89	65	9	3	.....	☊² a.
29	30.6	25.3	87	62	10	5	.....	☊ a.
Mean	30.3	24.8	84.5	66.2	8.4	5.7	.....	
Total	.....	.....	.....	.....	.....	.....	.....	

GUIUAN

[ϕ=11° 03′ N; λ=125° 43′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.9	18.1	98	84	8	9	23.4	☊² d° a ● p.
2	28.8	21.2	97	76	8	2	1.4	● a. ●° p.
3	29.4	22.4	93	83	5	8	11.2	d° a. ●° p.
4	27.1	22.7	96	86	10	10	35.5	● a. p.
5	28	22.5	88	73	8	8	.3	●° p.
6	28.8	24	76	66	6	8	.....	
7	29.2	23.7	68	64	3	3	.....	
8	29.3	23.4	79	67	2	3	.8	
9	29.2	22.3	93	86	2	5	13.5	d° a. ●° a. p. ◠ p.
10	28.2	23.2	96	81	9	6	21.3	● a. p.
11	29.4	22	95	76	2	2	2.7	◠² a. p p.
12	29.3	22.8	83	70	3	4	4.6	● a. p.
13	28.9	22.7	81	73	6	8	13	d° a. ● p.
14	28.8	23.3	92	95	8	9	53.9	● a. p.
15	29.7	22.4	96	82	8	7	5.8	●² a. ●° a. p.
16	29.7	22.5	97	80	2	8	1.6	d ◠² p p.
17	29.8	21.5	98	72	2	1	.....	
18	29.4	20.9	97	90	3	9	12.4	☊² a. p p.
19	29.1	23.6	91	75	4	9	.8	● d° a. p a. p.
20	28.8	24.3	71	69	8	8	.....	
21	29.7	24.8	84	72	8	8	.....	
22	30.7	23.3	84	67	6	7	.....	☊² p.
23	29.8	20.1	97	67	9	5	5.3	☊² a. ♆ p.
24	28.9	21.4	93	76	8	9	3.3	● a. p d p.
25	28.8	23.4	77	70	8	1	.....	
26	29.2	23.1	89	74	3	2	5.6	◠ d² ● a.
27	29.4	24.4	81	71	2	4	.....	
28	29.4	23.5	80	77	8	6	4.5	d° a. d p.
29	29.7	23.3	86	93	7	10	8.6	● a. p.
Mean	29.1	22.6	88.1	76.4	5.7	6.2	.....	
Total	.....	.....	.....	.....	.....	.....	229.5	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.2	19	99	73	4	5	0.3	☊ ≡ a. ♆ p.
2	29.9	21.3	98	75	4	6	.8	≡ a. ●° d a. p.
3	28.6	22	99	73	7	6	22.1	≡ d a.
4	28.5	22.5	98	76	10	8	25.9	● a. p.
5	27.7	22	88	77	9	9	2.8	● a. ●° ◠ p.
6	28.5	24.2	87	61	7	5	.....	
7	28.9	20	93	63	6	6	.....	☊ a.
8	29	19.2	98	58	5	4	3.6	☊ ≡ a.
9	29.5	20.7	96	73	8	7	29.8	≡° a. ● a. p. d p.
10	27.7	23	94	95	10	10	29.5	● a. p.
11	29	22.6	98	74	6	6	3.1	≡ ● a. ●° p.
12	29.2	22.3	98	71	7	6	11.9	●° a.
13	30	21.6	80	74	6	7	8.1	● a. p. ◠ p.
14	27.7	23	92	86	9	8	10.7	d a. ● a. p. ◠ ≶
15	29.5	24	98	79	8	7	9.6	◠ a. ● a. p.
16	29.5	23	98	78	8	7	23.4	≡ a. ● a. p.
17	29.5	23	98	69	6	4	.3	● ≡ a. ●° p.
18	30	21.5	98	90	3	9	7.6	☊ ≡ a. ●° p.
19	29.2	22.7	97	77	7	7	6.6	● a. p.
20	28.5	23.7	81	69	6	7	9.1	● p.
21	29.9	23.2	78	67	7	6	.3	● a.
22	29.7	25	79	76	5	7	.3	d a. p.
23	28.4	20.4	97	81	7	7	13.2	≡ ● a. ♆ p.
24	29.1	22.3	96	74	9	7	9.6	● a. ♆ p.
25	29.5	24.1	86	64	8	6	.6	●° ◯° a. ☋° p.
26	28.9	22.3	90	75	7	7	6.9	● a. p. ♈ p.
27	29.6	23.3	84	66	7	6	.3	◠ ●° d a. ♆ p.
28	29.5	21.7	96	70	6	6	2.1	☊ ≡° ●° a.
29	29.4	23.7	93	71	7	7	12.2	● a. ●° a. p.
Mean	29.1	22.3	92.7	73.6	6.9	6.7	.....	
Total	.....	.....	.....	.....	.....	.....	250.7	

MASBATE.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.4	22	.....	74	8	3	.....	
2	29.6	23.6	98	82	9	4	.....	
3	29.5	24	94	83	9	9	.....	
4	30.2	23.5	90	85	8	9	.....	
5	28	24.4	97	84	10	10	1.5	
6	.....	23.6	95	.....	10	.....	.....	
7	30.5	23	94	75	8	6	.....	
8	31	22	91	76	10	6	.....	
9	30.6	20.6	.....	82	8	9	.....	
10	27.5	23.5	97	91	10	9	5.1	
11	29.4	23.2	100	.....	10	7	.....	
12	31.4	24	96	83	6	9	.3	
13	31.6	23.4	91	74	8	4	.....	
14	29.4	23	95	90	9	10	2	
15	29.2	24.2	97	90	10	6	.....	
16	32.4	24.8	98	.....	6	3	.....	
17	31.6	24.5	97	.....	7	3	.....	
18	29	23.4	99	85	10	8	1.8	
19	27.8	24.2	98	94	10	10	65.5	
20	25.4	22.6	100	99	10	10	22.6	
21	30	23.6	96	81	8	8	.....	
22	31	22.4	99	76	8	10	.....	
23	30.4	22.6	98	81	8	7	5.1	
24	29.6	23.5	97	82	10	8	.....	
25	30.6	23	96	76	10	6	.....	
26	31.6	22.2	97	74	10	6	.3	
27	.....	23.4	99	.....	10	.....	2.3	
28	30.4	22.6	96	81	8	4	.....	
29	31.6	24	94	74	9	6	.....	
Mean	30	23.3	96.3	82.2	8.9	7	.....	
Total	.....	.....	.....	.....	.....	.....	106.5	

Meteorological data for third and fourth class stations—Continued.

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.6	21.4	95	64	10	1	5.3	● a.
2	31.4	21.2	96	62	10	1	2.3	☊ a. p° p.
3	32.1	23	95	65	10	2	-----	d p° a.
4	32.6	23.4	86	62	10	3	6.1	p° ● p.
5	29.8	23.4	87	78	10	9	6.6	● p a. p.
6	31.8	23.2	80	63	9	3	.3	p p.
7	32	23	78	62	9	2	-----	
8	31.5	22.8	84	59	10	1	-----	
9	31.9	22.7	80	55	10	3	1.3	
10	32.8	22.9	92	62	10	7	2	d ● a. p° p.
11	32.2	23	88	67	10	7	5.6	● a. p a. p. d p.
12	33	22.4	91	62	10	1	3.3	d p.
13	32.9	22.8	86	63	10	1	.8	
14	32.4	21.4	96	60	10	3	2.3	●° a.
15	32.8	22.8	91	69	9	6	1.5	●° a. p. d° p.
16	33.1	24.4	93	73	10	3	.8	●° d a.
17	33.6	23.8	92	66	10	2	-----	
18	33.5	23.9	88	64	10	1	4.1	☊ a.
19	30.8	23.2	94	71	10	10	1.5	● a.
20	26.5	23.2	93	89	10	10	27	d a. p. ● p.
21	30.4	22.2	97	79	10	10	1.5	d° a. p p.
22	32.7	22.4	90	63	10	1	6.6	
23	32.5	21.8	96	65	8	3	9.4	● a. p. d p.
24	31.5	23.2	92	73	6	7	-----	● a.
25	32.8	23.3	82	65	6	1	-----	☊ a.
26	32.3	23.2	83	58	10	1	-----	
27	30.6	22.4	86	70	10	9	-----	p° a. d° a. p.
28	32.6	23.2	85	65	10	1	-----	
29	32.7	22.9	87	62	10	2	-----	
Mean	32	22.8	89.1	66.1	9.6	3.8	-----	
Total	-----	-----	-----	-----	-----	-----	88.3	

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	19	-----	72	7	9	2	☊ a. d ●° p.
2	30.7	21.6	-----	87	9	9	9.9	☊ d a. ● p.
3	29.7	22.4	99	82	9	9	14.7	● a. d p.
4	29.6	22.4	87	68	9	5	1.3	● a. ●° p.
5	29.4	22.9	84	75	9	8	9.1	● a. p d p.
6	28.6	23.6	81	70	8	6	-----	
7	29.3	23.4	81	62	3	4	-----	
8	30.2	19.3	99	65	4	3	-----	☊ d a.
9	30.3	19.1	99	84	8	9	35	☊ ●° a. ● p.
10	28.7	19	97	81	9	9	50.8	● a. p. d p.
11	29.2	22.6	98	76	9	4	.3	●² ⌒ d a.
12	29.8	23.8	91	83	6	9	11.9	☊ d a. ● p p.
13	30.1	22.8	79	70	5	5	1.8	● a. p p.
14	29.7	22.9	98	77	9	6	40.7	● a. p. d ⌒° p.
15	30.1	23.8	99	84	9	7	12.5	●² a. ● a. p. d p.
16	29.6	21.9	99	78	2	3	3	☊² p a.
17	30.2	21.7	99	73	4	3	1.3	≡ ● a. ●° p.
18	30.7	22	99	70	6	7	5.1	≡² a. ●° p.
19	31.1	21.9	97	98	7	10	65.3	●° a. ●² p.
20	29.2	22.8	97	84	10	9	45.7	●² a. ● p.
21	28	22.9	93	88	4	9	3.5	● a. p d p.
22	29.5	21.2	99	80	2	5	.5	≡ ●° d a. p p.
23	29.3	20.1	-----	94	7	10	31.8	☊ ≡² a. ● a. p.
24	28.9	23.1	97	67	10	5	3	● a.
25	29.8	20.9	97	73	3	4	-----	☊ ≡ d a.
26	29.9	20.4	98	72	6	5	3.3	☊ ≡ d p a. ●° p.
27	29.9	23.6	95	71	9	6	1.8	●° ⌒° p a. d p.
28	30.3	20.8	98	70	5	6	.3	≡ p a.
29	30.7	21.4	88	70	6	6	1.3	p a. d p.
Mean	29.8	21.8	94.2	76.7	6.7	6.6	-----	
Total	-----	-----	-----	-----	-----	-----	355.9	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28	19.9	98	71	8	8	-----	☋ p.
2	28.8	22.5	94	76	7	9	2.5	d a.
3	27.6	22	98	82	10	10	5.6	d ●° a.
4	28.3	22.5	91	77	10	10	16.3	● p.
5	27	23.4	93	80	10	10	-----	● a.
6	27.5	-----	97	75	9	10	-----	
7	27.6	23.8	90	74	8	10	-----	
8	27.7	23.7	98	73	8	7	-----	
9	28.3	19.9	92	73	8	10	4.8	d ⌒ ●° p.
10	27.9	22.5	98	89	9	10	12	●° a. d ● p.
11	27.6	22.8	97	92	8	10	12.2	● a. p.
12	27.6	23	96	90	9	9	7.1	● a. p. d p.
13	28.1	23.3	94	81	7	7	-----	
14	28.6	23.4	96	83	8	10	9.1	d a.
15	28.6	24	98	87	8	10	4.8	● p a. d p.
16	29.3	24.3	98	83	9	8	4	d a. p.
17	28.7	25.2	93	78	9	7	-----	
18	29.2	21.9	96	83	9	8	7.4	
19	27.5	23.6	96	97	9	10	62.8	● a. p.
20	25.2	22.6	98	97	10	10	70.6	● a. p.
21	26.2	22.9	96	94	8	10	5.8	● a.
22	28.6	21.9	98	88	8	9	-----	d p.
23	28.3	22.6	97	90	5	10	11.7	d p.
24	28.2	23.6	96	79	9	6	1.5	● a. d p.
25	28.2	24.7	93	77	9	6	-----	
26	28.2	23.1	92	79	8	7	1	
27	27.6	24.1	95	91	9	9	4.8	d a. p.
28	28.3	24.7	88	77	10	6	1.3	p° a.
29	28.8	22.8	96	79	8	9	3	d ⌒ a.
Mean	28	23	95.2	82.6	8.5	8.8	-----	
Total	-----	-----	-----	-----	-----	-----	248.3	

SUMAY, GUAM (LADRONE ISLANDS).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27	23	83	71	7	10	1.3	
2	28	23	88	70	10	7	3.8	
3	29.2	23	83	61	8	10	-----	
4	27.8	22.4	91	67	10	6	2.5	
5	27.2	22.6	88	71	6	8	1.3	
6	27.6	22.8	83	72	5	6	-----	
7	29	23	88	69	8	10	3.8	
8	29	23	87	70	6	5	-----	
9	28.6	23	86	68	5	6	-----	
10	29.4	23.6	83	64	10	6	-----	
11	27.4	23.6	85	77	6	9	-----	
12	28	23	83	70	7	8	-----	
13	29.4	23.2	83	64	6	5	-----	
14	28.2	23.8	86	70	9	10	2.5	
15	26.4	23	88	78	6	10	-----	
16	29.2	23.4	83	70	10	6	-----	
17	29.4	23	85	66	7	4	-----	
18	29	23	85	63	4	5	-----	
19	29	23	83	65	5	4	-----	
20	29.6	23	86	64	10	10	-----	
21	28	24	83	72	6	8	-----	
22	29	23	87	68	8	7	2.5	
23	28	23	88	72	8	10	5.1	
24	29.4	23	85	64	8	4	-----	
25	28.6	22.8	83	66	6	10	1.3	
26	27.4	23	88	74	8	9	2.5	
27	27.4	24.4	87	77	10	6	2.5	
28	29.4	22.4	88	68	8	5	2.5	
29	29	24	85	69	6	5	1.3	
Mean	28.4	23.1	85.6	69	7.3	7.2	-----	
Total	-----	-----	-----	-----	-----	-----	32.9	

Meteorological data for third and fourth class stations—Continued.

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	22	96	63	10	3	------	d° a.
2	31.4	21.6?	97	65	9	3	------	
3	31	23.5	82	67	10	4	------	d a.
4	30.6	22.5	91	67	10	2	1.3	p p.
5	30.5	22.1	96	78	10	10	6.1	d° a. d p.
6	31.5	22	91	57	10	6	------	
7	32	21.6	91	54	8	4	2.3	d p.
8	31	20.1	95	59	10	8	------	
9	31.5	20	95	56	8	8	------	
10	31	21.2	91	66	10	10	------	●° a.
11	30.6	22.6	84	74	10	10	------	
12	32.2	22.2	91	64	10	3	------	●° a.
13	31.5	23.5	87	58	10	4	------	
14	32	22.2	96	63	10	8	------	
15	32	23	89	62	10	9	------	
16	32.3	24.7	90	70	10	3	.3	●° p.
17	33.1	23.6	96	64	10	4	------	d° a.
18	32.9	24.1	95	76	10	4	9.1	● p.
19	31.5	24.6	82	76	10	7	3	
20	30.2	22.7	89	75	10	10	4.3	●° a. d° p.
21	29.8	22.5	95	84	10	10	26.2	d° a. ●° a. p. ● p.
22	30.1	22.8	79	73	10	2	1.8	●° a. d p.
23	30.1	22	95	84	10	5	.8	●° p.
24	31.2	22.6	96	78	9	10	------	
25	31.5	23.4	92	72	10	2	------	
26	30.5	23.5	90	58	10	4	------	
27	32.8	21.6	96	52	10	3	------	
28	31.6	23	93	64	7	3	------	
29	32.6	24.2	85	53	10	4	------	
Mean	31.4	22.6	91.2	66.6	9.7	5.6	------	
Total	------	------	------	------	------	------	55.2	

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	18.3	95	65	4	2	------	☊² a.
2	32	21.2	96	63	10	9	5.8	☊° a. ☋ p.
3	28.7	21.8	96	80	10	9	1.5	● a. d a. p. ☋ p.
4	30.5	21.2	96	64	10	7	21.6	d° a. p° ● ☋ p.
5	29.2	22	83	83	10	10	1.8	● ☋ a. p p.
6	30	21	83	74	10	10	.8	d ●° a. p° p.
7	30.4	20.8	83	61	5	6	------	☊ a.
8	30.6	19.2	----	60	5	6	------	☊ a.
9	31.5	18.2	98	65	3	6	------	☊² a. p° p.
10	31.2	22	85	71	10	10	------	p° p.
11	29.5	20.5	95	80	7	10	1.4	☊° d° ◠² a. d p.
12	32	20.4	97	59	6	7	------	d a. ◠ p° p.
13	31.6	20.2	91	57	4	6	------	
14	30	21	96	92	8	10	4.5	d a. p. ●° p.
15	31	21.2	99	72	5	10	.3	≡ d a. p° p.
16	31.5	22	98	76	9	7	1.2	d p° ◠ a. d° p.
17	31.2	22.1	96	71	10	5	.3	●° d p° a.
18	32.5	19.5	95	68	7	7	4.1	☊ a.
19	29	22.5	97	84	10	10	15.6	p° ◠ a. ● d a. p.
20	27.7	22	83	82	10	10	45	● ◠ a. ↙° ●° a. p.
21	26.5	22	94	95	10	10	23.9	◠ a. ● a. p.
22	30	22	91	79	7	8	12.5	● a. p. ↙° d ☋ p.
23	31.2	22.6	97	65	10	8	6.1	● ◠² d a. p° ☋ p.
24	30.5	23	92	71	10	6	.6	● ◠² d a.
25	31.2	20.4	86?	62	7	4	------	☊ a.
26	31.2	19.4	98	69	5	5	------	☊² a.
27	31.4	20.6	87?	70	7	6	1.8	d° p° a. p° ● ◠ ☋
28	31.3	21.4	88	68	6	5	1.5	☊° a. ☋ p.
29	31.5	20.5	91	65	9	5	.3	●° a. ☋ ☋° p.
Mean	30.5	21	92.4	71.4	7.7	7.4	------	
Total	------	------	------	------	------	------	150.6	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	20.1	92	54	6	6	------	
2	31.3	18.8	91	56	4	5	------	
3	30.2	20.5	89	59	5	6	------	
4	32.1	18.2	92	55	1	6	------	
5	30.8	21.2	91	65	6	6	------	
6	33.3	21.6	86	49	5	9	------	
7	31.6	19.8	91	53	4	6	------	
8	32.7	18.6	90	47	3	4	------	
9	34.2	18.4	90	43	3	5	------	
10	30.2	19.5	84	65	3	7	------	
11	30.8	19.6	87	60	1	9	------	
12	33.8	19	91	40	4	4	------	
13	33.9	21.7	83	43	6	3	------	
14	34.4	19.2	91	45	3	4	------	
15	35.4	19	79	50	9	5	------	
16	35.2	22.8	83	53	7	7	------	
17	35.5	22.2	91	57	4	7	------	
18	34.7	22.1	91	65	5	5	------	
19	34.3	22.3	88	50	4	6	------	
20	31.7	21.6	79	52	4	6	------	
21	32.8	21.8	91	54	5	6	0.5	d p.
22	34.4	21.1	91	36	3	1	------	
23	33	21.7	84	62	6	6	------	
24	34	23.5	93	47	5	6	------	
25	34.5	22.1	86	40	3	4	------	
26	34.8	21.5	88	40	3	3	------	
27	35.4	22	93	45	3	5	------	
28	34.6	22.2	91	41	2	4	------	
29	36.3	23.3	91	36	3	4	------	
Mean	33.4	20.9	88.5	50.4	4.1	5.3	------	
Total	------	------	------	------	------	------	.5	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.7	19.5	98	64	7	4	------	≡ a.
2	31.4	19.2	98	63	2	8	------	☊ ≡ a.
3	31	19	98	67	10	7	2.5	●° a.
4	29.9	19.5	97	66	5	6	4.1	●° p.
5	30.3	17.4	98	71	10	10	13.7	●° a. p.
6	28.1	17.8	98	70	7	8	2	d a. ●° a. p.
7	28	18.1	97	70	6	9	------	☊ ≡ p° a.
8	29.3	17.5	98	68	2	7	------	
9	30.4	20	98	65	5	8	------	≡ a.
10	31	19.2	97	64	2	2	------	≡ a.
11	30.7	19	97	66	7	9	------	d p.
12	30.2	18.5	98	65	3	5	------	☊ ≡ a.
13	31.4	19.2	98	67	8	4	------	☊ ≡ d a.
14	31	20	98	67	2	5	------	≡ a.
15	31.4	20.4	98	64	2	3	------	
16	31.5	19.6	97	64	7	5	------	
17	31	20	98	64	2	8	------	☊ ≡ a.
18	31.7	19.4	98	63	2	2	------	
19	31.4	18.8	98	69	6	7	------	
20	29.3	18	98	67	3	8	------	
21	29	17.6	97	62	2	6	------	
22	29.5	19.4	98	64	4	8	------	☊ ≡ a.
23	28.3	19.7	97	67	2	8	------	
24	29.2	20	97	65	10	5	------	d a.
25	30.4	19.9	98	67	2	2	------	
26	30	19.5	96	67	4	7	------	
27	30.3	19.8	97	61	3	2	------	
28	30.2	20.3	98	62	2	7	------	
29	31.4	19.2	95	64	2	2	------	
Mean	30.3	19.2	97.5	65.6	4.4	5.9	------	
Total	------	------	------	------	------	------	22.3	

Meteorological data for third and fourth class stations—Continued.

SANTA CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	19.7	98	56	3	4	.....	☰° ☊² a.
2	31.1	19.2	97	65	8	5	11.2	☊ a. ☾ p.
3	26.4	20	98	82	9	10	2.5	● d a.
4	29.6	20	96	62	2	4	9.4	☊ a.
5	27.3	21.1	96	83	10	9	4.6	● a. d a. p.
6	26.3	21.1	91	87	9	9	2.8	d° a. d² p.
7	28.5	19.3	92	70	5	7	.8	d ◠ p.
8	28.3	20.5	94	67	7	8	.....	◠ a.
9	29.7	19.1	95	54	5	4	.....	
10	29.6	19.6	91	60	4	7	.....	
11	30.2	19.7	94	58	3	7	.....	
12	30.2	20.4	91	62	3	6	.....	p° p.
13	30	19.5	90	55	6	3	.8	d a.
14	30.9	18	98	58	4	4	.....	☊² a.
15	30.8	21.3	91	68	7	9	.....	
16	30.6	23	90	68	3	8	.5	d p.
17	31.5	22.7	97	65	9	7	.3	p a.
18	30.2	21.5	96	67	4	7	.....	
19	30.2	22.2	78	63	7	6	.....	
20	29.8	22	72	66	7	7	.....	
21	28.5	21.1	93	81	8	10	.5	d° a. d p.
22	32.5	20.6	93	54	4	3	1.3	
23	29.6	20.9	98	70	7	7	.5	d² a.
24	30.9	22.2	90	55	4	6	.....	d a.
25	30.8	20.1	95	54	4	4	.....	
26	31.2	20.2	95	56	5	5	.....	
27	31.2	20.9	89	58	3	6	.....	
28	31.8	20.7	95	53	3	4	.....	☊° a.
29	31.6	21	91	51	4	4	.....	
Mean	30	20.6	92.6	63.7	5.4	6.2	.....	
Total	.....	.....	.....	.....	.....	.....	35.2	

ANTIPOLO.

[ϕ=14° 36′ N; λ=121° 10′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	19.4	94	57	2	7	.....	☊ a.
2	32.7	19.5	97	57	4	6	4.6	☊ a.
3	27	18.4	97	74	10	10	.....	◒ a.
4	31	18.3	90	69	3	7	1.5	☊° a. ● p.
5	31.2	20.1	98	62	4	10	.....	●° a. d p.
6	31.3	19.8	95	74	4	9	1	☊² a. ●° p.
7	28.6	20	83	61	4	9	.....	☊° a.
8	31.4	20.1	87	54	9	8	.....	p° a.
9	32.9	18.6	90	42	4	4	.....	☊ a.
10	33	18.7	83	48	3	4	.....	☊° a.
11	35	18.8	81	46	1	6	.....	☊ a.
12	33.6	18.8	82	41	1	2	.....	☊° a.
13	33.8	19.8	80	43	6	2	.....	
14	34	18.7	82	40	3	4	.....	☊° a.
15	34.3	19.9	87	44	6	7	.....	
16	34	21	82	61	3	8	.....	‾ p° p.
17	31.8	22.2	89	69	8	6	22.9	●² p.
18	32.2	21.4	95	58	4	8	.....	☊² a.
19	32.1	22.8	67	48	2	2	.....	
20	30	22.9	64	50	4	8	.....	
21	31.2	21.5	78	60	8	9	.....	◠ a. p p.
22	33.6	21.7	81	42	6	2	.....	
23	32.5	20	94	55	3	8	.....	☊ a.
24	33.1	21.8	81	40	7	3	.....	
25	33.6	20.8	73	40	2	2	.....	
26	33.6	20.4	75	42	5	2	.....	
27	33.3	19.6	77	44	3	2	.....	
28	34.3	20.8	87	42	3	3	.....	
29	34.3	20.9	78	37	3	2	.....	
Mean	32.5	20.2	84.4	51.7	4.3	5.5	.....	
Total	.....	.....	.....	.....	.....	.....	30	

IBA.

[ϕ=15° 20′ N; λ=119° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.3	18	96	62	2	5	.....	☊² ☰° a.
2	30.3	19.1	86	56	5	3	.....	
3	29.1	17.5	95	67	5	10	.....	☰° a.
4	29	15.5	95	64	2	10	.....	☊² ☰° a.
5	30	19	94	67	4	10	.....	d p.
6	30.5	18	96	68	6	8	.....	☊ ☰° a. d p.
7	29.9	17.8	95	60	4	10	.....	☊° ☰° a. d p.
8	29.7	17.8	93	64	8	10	.....	
9	30.1	17.6	95	58	10	10	.....	☰° a. ◯ a. p.
10	29.9	17.5	98	70	4	3	.....	☊ ☰ a.
11	30.2	17.6	97	68	2	2	.....	☊² ☰ a.
12	30.7	18.3	95	61	2	4	.....	☊² ☰° a.
13	30.5	17.5	95	54	1	3	.....	☊ ☰° a.
14	30.9	17.2	95	63	2	3	.....	☊° ☰° a.
15	30.7	17.1	97	62	4	6	.....	☊ ☰ a.
16	31.4	18.5	94	58	3	2	.....	☊° a.
17	31.7	20	95	63	3	3	.....	☰° a. ◹ d p.
18	31.7	21	95	61	4	2	.3	☰° a. d p.
19	32	20.8	95	62	5	4	.....	☰° a.
20	33.5	23.1	60	58	3	5	3	◠² ●° p.
21	31.3	21.1	92	59	10	5	.5	d a.
22	33.1	22	88	57	4	4	.....	
23	31.8	18.5	95	62	2	2	.....	☰° a.
24	33.3	21.2	76	54	5	4	.....	
25	32	19.3	82	52	6	5	.....	
26	32.8	17.2	93	52	5	4	.....	☊° a.
27	31.6	17.5	97	58	6	3	.....	☊ ☰ a.
28	31.8	19.1	84	56	8	4	.....	
29	32.9	19.9	71	52	5	2	.....	
Mean	31.1	18.8	91	60.3	4.5	5	.....	
Total	.....	.....	.....	.....	.....	.....	3.8	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.2	18.3	87	50	1	4	.....	☊ a.
2	31	18.5	94	58	2	6	.....	☊ a.
3	31.9	20.8	78	54	10	10	.....	☊ a.
4	31.7	15.8	96	54	2	9	.....	☊ ☰° a.
5	32.2	22.2	81	52	9	9	.....	
6	33.4	19.5	91	48	10	8	.....	
7	30.6	18.6	96	57	2	10	.....	☊ ☰° a.
8	34.4	18.2	88	44	4	7	.....	☊ a.
9	33.9	20.4	95	46	7	9	.....	☊ ☰° a.
10	34.8	18.1	96	40	2	3	.....	☊ ☰° a.
11	35.6	18.5	94	42	2	9	.....	☊ a.
12	34.5	20.3	93	40	2	3	.....	☊ a.
13	34	16.6	94	46	0	2	.....	☊ a.
14	35.6	16.6	95	40	2	2	.....	☊ ☰° a.
15	36	18.2	97	40	2	3	.....	☊ ☰ a.
16	36	19.5	94	45	1	3	.....	☊ a.
17	32.4	21.5	89	55	1	3	18.5	☊ a. ● p.
18	34.2	22.3	95	50	7	3	.....	
19	34.2	22	81	39	2	3	.....	☊ a.
20	33	21.5	79	44	1	7	.....	☊ a.
21	32.2	21.5	86	54	9	9	.....	d° a.
22	35.5	21.7	94	43	3	8	.....	☊ a.
23	35.5	20.2	93	50	1	7	.....	☊ a.
24	33.6	20.1	93	47	3	2	.....	☊ a.
25	35.2	18.8	93	40	3	6	.....	☊ a.
26	35.4	17.5	95	40	2	2	.....	☊ ☰° a.
27	35.4	18	93	40	3	2	.....	☊ a.
28	34.3	20.1	92	46	2	3	.....	☊ a.
29	36.1	19.5	82	36	2	2	.....	☊ a.
Mean	33.9	19.5	90.8	46.2	3.3	5.3	.....	
Total	.....	.....	.....	.....	.....	.....	18.5	

Meteorological data for third and fourth class stations—Continued.

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.4	19.6	95	72	10	2	2.5	☊ ☰° a. ● p.
2	29.3	21.2	95	73	10	2	5.8	☊ ☰° a. ● p.
3	28.9	21.3	92	67	10	1	------	☊ a.
4	26.6	18.9	95	87	10	10	2.5	☊ a. d a. p. ● p.
5	25.6	20.7	96	91	10	10	6.1	● a. p. d p.
6	26.7	21	96	83	10	10	11.4	● a. p. d p.
7	27	20.8	96	75	10	10	1.5	● a. p.
8	28.2	19	98	78	10	10	36.1	☊ ☰ a. ●^{2} p.
9	28.2	21.2	95	77	10	9	.3	☊ ☰° ◠^{2} a. ● p.
10	28.3	19.7	95	77	10	1	.8	☊° ☰° a. ● p.
11	28.2	19.2	97	77	10	1	.3	☊ ☰ d a. ● p.
12	29.1	20.5	95	72	10	1	1.3	☊ ☰° a. ● p.
13	28.9	21.3	96	70	10	1	------	☊° ☰° a.
14	29.3	18.5	96	72	10	0	------	☊^{2} ☰° a.
15	29.6	18.5	94	70	10	1	------	☊^{2} a.
16	29.2	22	94	69	10	10	------	
17	29.5	22.4	95	79	10	10	------	d p.
18	30.1	22.5	96	68	10	10	.3	☊ ☰° a. d ● p.
19	30.5	22.8	78	68	10	9	------	d ☌ p.
20	28.3	23.3	79	74	10	10	------	☌° a. ☌ p.
21	27.1	23.7	79	84	10	10	10.2	d a. p. ● p.
22	28.9	22.6	95	73	10	2	1.3	● a.
23	28.9	19.4	90	81	10	10	------	☊^{2} a. d ☿ p.
24	29.2	19.9	97	75	10	1	------	☊ ☰ d a. ☿ p.
25	29.5	19.6	97	70	10	1	------	☊^{2} ☰ a.
26	29.9	18.7	95	70	10	0	------	☊^{2} ☰° a.
27	29.2	19.2	86	74	10	1	------	☊° d a. ☿^{2} p.
28	29.8	21.3	96	78	10	1	1.3	☰° d a.
29	30.1	19.3	95	71	10	1	------	
Mean	28.7	20.6	93.2	75	10	5	------	
Total	------	------	------	------	------	------	81.7	

SAN FERNANDO, UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6. a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29	20.4	92	70	6	2	------	
2	27.3	21	77	68	10	10	------	
3	27.5	20	86	68	0	0	------	
4	28.3	17.2	96	66	2	6	------	☊ a.
5	29.3	18.3	93	73	10	10	------	☊ a.
6	29.6	20	92	66	8	1	------	
7	29.6	19.2	92	64	10	1	------	☊° a.
8	29.4	20.5	82	71	10	6	------	☊° a.
9	29.9	21.1	90	69	8	7	------	
10	29.9	20.9	90	69	4	4	------	☊° a.
11	30.2	19.1	96	75	3	0	------	☊^{2} a.
12	31.1	19.3	94	62	1	1	------	☊° a.
13	31.4	19.2	94	60	0	1	------	☊^{2} a.
14	30.4	19.8	91	66	1	1	------	☊° a.
15	30.9	19.2	94	68	1	1	------	☊^{2} a.
16	30.9	19.1	93	65	0	0	------	☊^{2} a.
17	30.9	20.2	91	69	0	0	------	☊° a. ☇° p.
18	31.1	21.4	89	66	10	1	------	☊° a. ☇° p.
19	31.2	21.4	92	59	0	1	------	☊^{2} a.
20	30.7	20.9	90	59	1	1	------	☊° a.
21	30.6	22	85	60	10	2	------	⊕° a. ◠° p.
22	30.4	20.6	92	62	4	9	------	
23	31.2	19.2	93	65	1	2	------	☊° a.
24	34.1	20.9	89	62	0	1	------	☊° a.
25	32.1	20.4	92	54	2	1	------	
26	30.6	19.1	89	64	4	1	------	
27	32.3	20.7	92	51	3	0	------	☊° a.
28	31.1	20.8	90	60	1	4	------	⊕° a.
29	31.4	20.3	87	58	0	3	------	
Mean	30.4	20.1	90.6	64.4	3.8	2.7	------	
Total	------	------	------	------	------	------	------	

ECHAGUE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	27.3	19.8	98	81	10	4	1.8	d° a. p.
2	28.9	19.9	92	55	10	5	------	
3	28.6	18.4	89	54	9	6	1.3	
4	24.9	19.6	86	78	10	10	.8	d a.
5	26.8	18.3	94	75	10	9	1.3	☊ d° a.
6	29.7	19.2	95	52	10	3	1.8	
7	28.1	18	95	60	10	8	------	d a.
8	31.5	19.5	97	47	8	9	------	
9	31.6	20	91	46	9	7	------	
10	31.8	18.4	94	48	3	6	------	☌ p.
11	32.6	19.5	92	45	8	5	------	☌^{2} p.
12	31	20.8	95	53	9	8	------	☌^{2} p.
13	32.7	18	96	40	1	3	------	☰° a. ☌ p.
14	31.7	17	98	47	3	1	------	☰ a. ☌ p.
15	32.4	18.7	96	45	3	4	------	☰° a. ☌^{2} p.
16	33.6	20.2	96	48	4	5	------	☊ a. ☌^{2} p.
17	34.3	21.4	91	46	10	4	------	☌^{2} ⊤ p.
18	29	22.4	90	70	10	9	------	d° a.
19	28.1	20.4	90	74	10	9	3	d a.
20	28.3	20	99	67	10	9	------	d a.
21	29.4	19.9	92	66	10	9	------	d° p.
22	31.9	20.6	96	54	7	7	------	
23	32.2	19.9	94	49	9	5	------	
24	35	18.9	95	40	7	5	------	
25	34	16.6	93	39	3	1	------	☊^{2} a.
26	34.3	16.5	94	38	3	6	------	☊° a.
27	34.1	15	92	39	0	0	------	☊ a. ☌ p.
28	34.1	17.3	98	41	0	2	------	☰ ☊ a. ☌ p.
29	35.2	18.8	92	32	1	1	------	☊° a. ☌ p.
Mean	31.1	19.1	93.8	52.7	6.8	5.5	------	
Total	------	------	------	------	------	------	10	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	27.7	21.4	76	66	0	2	------	☊ a.
2	27.8	20.7	82	66	10	3	------	☊ a.
3	26.2	18.5	81	68	0	0	------	☊^{2} a.
4	26.7	18	84	63	1	5	------	☊^{2} a. ☿ p.
5	27.7	20.5	73	63	1	8	------	☊ a.
6	27.9	21.4	82	68	7	3	------	☊ a.
7	28.6	20.5	79	62	9	1	------	☊ a.
8	28.8	20.4	82	65	8	6	------	☊^{2} a.
9	29	21.5	82	61	8	4	------	☊ a.
10	28.8	22	78	60	3	2	------	☊^{2} a.
11	28.9	20.7	84	69	1	4	------	☊^{2} a.
12	28.8	20.4	84	70	2	0	------	☊^{2} a.
13	29.2	21	84	68	0	0	------	☊^{2} a.
14	28.9	22	83	65	1	1	------	☊^{2} a.
15	29.4	19.8	85	64	3	2	------	☊^{2} a.
16	29.2	20.9	82	70	1	0	------	☊^{2} a.
17	29.9	21	81	72	2	3	------	☊ a.
18	30	22.5	82	65	9	8	------	☊ a.
19	30.9	22.8	73	56	0	0	------	☊ a.
20	30.8	21.5	73	56	0	0	------	☊ a.
21	28.8	22.4	74	66	9	6	------	☊ a.
22	28.5	21.9	82	66	8	10	------	☊ d° a.
23	28.8	20.2	84	64	2	6	------	☊ a.
24	30.2	21.8	87	64	1	3	------	☊ a.
25	30.2	21.6	85	70	2	2	------	☊^{2} a.
26	29.3	21	82	69	5	2	------	☊^{2} a.
27	29.4	20	85	66	1	5	------	☊^{2} a.
28	30.5	20	79	52	8	0	------	☿ p.
29	30.4	20.5	78	64	2	1	------	☊^{2} a.
Mean	29	20.9	80.9	64.8	3.6	3	------	
Total	------	------	------	------	------	------	------	

Meteorological data for third and fourth class stations—Continued.

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	26.8	21.4	89	63	2	4	.....	
2	25.9	20.4	83	66	10	3	.....	
3	28	17.5	95	61	0	0	.....	☊ ☰° a.
4	31.3	17.7	93	55	0	2	.....	☊ a.
5	33.2	19	82	47	3	3	.....	☊ a.
6	29.6	19.6	86	53	4	3	.....	☊ a.
7	30.4	17	87	52	2	1	.....	☊ a.
8	29.	18.4	87	64	0	2	.....	☊ a.
9	28.3	18.9	92	66	4	2	.....	☊ a.
10	28.9	20	92	66	9	3	.....	☊ a.
11	30.5	18.6	91	58	0	2	.....	☊ a.
12	32.5	17.6	93	48	0	1	.....	☊ a.
13	31.2	19.6	91	59	0	1	.....	☊ a.
14	30.3	19.5	95	54	0	0	.....	☊ ☰° a.
15	32.2	17.7	93	48	0	0	.....	☊ a.
16	31.1	19.7	93	57	0	0	.....	☊ a.
17	32.8	19.4	89	53	0	1	.....	☊ a.
18	33.8	22	86	46	0	0	.....	
19	33.9	19	89	41	0	0	.....	☊ a.
20	32.9	19.5	90	43	0	0	.....	☊ a.
21	32.3	18.4	91	53	3	7	.....	☊ a.
22	30.6	21.7	96	71	3	10	.....	☊ a.
23	31.7	20.3	94	52	4	3	.....	☊ a.
24	30.8	21	95	60	1	2	.....	☊ a.
25	31.7	21.1	96	60	0	1	.....	☊ a.
26	30.8	20.9	98	63	0	1	.....	☊ ☰ a.
27	31	19.6	97	64	0	1	.....	☊ ☰ a.
28	32.3	19.7	95	59	0	1	.....	☊ ☰° a.
29	32.3	18.9	97	60	0	0	.....	☊ ☰ a.
Mean	30.9	19.5	91.6	56.6	1.6	1.9	.....	
Total	.....	.....	.....	.....	.....	.....	.....	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	23.9	18.4	86	72	8	8	1.6	d a. ●° a. p.
2	24	19.4	74	75	7	6	17.2	●° a. d ● p.
3	20.1	17	75	76	10	10	18.3	●° d a. p.
4	21.1	15.8	80	78	10	10	3.3	d ● a. p.
5	23.5	17.4	73	66	10	8	.5	●° p.
6	23.6	18.4	81	74	10	10	5.6	d° a. p.
7	23	17.7	84	86	10	10	65.9	● a. d a. p.
8	24	18.4	83	75	10	3	.....	●ᶻ a. ☊ p.
9	25	16.3	94	74	1	3	.....	☊ a. p.
10	24.7	20	86	86	4	10	1.6	d a. d° p.
11	25.5	19.8	88	75	10	3	1	●° a.
12	25.9	19.8	80	76	4	6	.....	
13	27.8	21.9	93	77	4	4	.....	
14	26.9	18	95	73	5	3	.....	☊ p.
15	26.5	20.9	88	73	7	4	.....	
16	27.8	19.5	93	70	6	4	.....	
17	28.5	20.5	89	75	5	6	.....	↙° p.
18	25.4	21	81	74	6	8	5.6	d° a. ● d p.
19	21.5	18.3	85	85	8	10	12.7	⌒° a. ↙° ● a. p.
20	22.8	16.8	76	66	10	8	.5	d° a.
21	26.8	18.9	75	70	7	7	.....	
22	27.4	22.2	87	77	7	10	.....	↙° p.
23	26.9	.....	91	79	7	8	.....	
24	28.7	22	90	74	4	6	.1	d° p.
25	29.1	22.6	89	72	4	5	.....	
26	29.2	23	88	72	3	2	.....	
27	28.8	23.2	87	69	2	3	.....	
28	30.2	22.9	94	69	4	1	.....	v a.
29	30	21.6	87	71	2	5	.....	d° p.
Mean	25.8	19.7	85.2	74.4	6.4	6.2	.....	
Total	.....	.....	.....	.....	.....	.....	133.9	

SEISMOLOGICAL BULLETIN FOR FEBRUARY, 1912.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

1, $6^h\ 45^m$ [1, $14^h\ 45^m$]. **Legaspi** (SE of Luzon). Oscillatory earthquake; direction NNW–SSE, intensity II–III. The origin must have been within Mayon Volcano, which lies not far from Legaspi in a north-northwesterly direction.

1, $18^h\ 7^m\ 30^s$* [2, $2^h\ 7^m\ 30^s$]. **Western Luzon.** Earthquake of intensity IV, felt in the Province of Pangasinan, the subprovince of Benguet, and in southern Union Province. The epicenter seems to have extended over the same mountainous region of southern Benguet, whence proceeded the great earthquakes of 1892. The reports of the stations of Dagupan and Baguio assign the same intensity to the phenomenon. At $18^h\ 28^m\ 0^s$* [$2^h\ 28^m\ 0^s$ of the 2d] occurred a repetition having the same intensity, direction and extension.

2, $22^h\ 58^m$ [3, $6^h\ 58^m$]. **Butuan** (N of Mindanao). Oscillatory earthquake of intensity II–III, direction ESE–WNW.

7, $4^h\ 35^m$ [7, $12^h\ 35^m$]. **Palanoc** (Masbate). Earthquake of intensity III.

8, $5^h\ 48^m$ [8, $13^h\ 48^m$]. **Guam** (Mariana Islands). Earthquake of intensity III.

11, $5^h\ 15^m$ [11, $13^h\ 15^m$]. **Southern Bohol and northern Mindanao.** Earthquake of intensity III. This intensity was reported from Jagna, situated on the southeastern coast of Bohol, where shortly afterward two aftershocks of less force were felt. At the stations of Butuan and Cagayan, in northern Mindanao, the quake was felt with force II, the repetitions being imperceptible. It is probable that the center of this disturbance as well as of those of the 12th, 13th and 15th lies beneath the sea, north of the volcanic island of Camiguin and is connected with the volcanic nature of the said island. None of these quakes has been registered at Manila, though the one of February 13 was described as *strong* (IV–V), a circumstance which seems to indicate their volcanic origin.

12, $17^h\ 15^m$ [13, $1^h\ 15^m$]. **Jagna** (SE of Bohol). Earthquake of intensity IV, with a repetition of less force 5 minutes later.

13, $16^h\ 3^m$ [14, $0^h\ 3^m$]. **Bohol and eastern Cebu.** Earthquake of intensity IV. In the towns on the southern coast of Bohol, it was accompanied by subterranean noises coming from south, that is, in the direction of Camiguin Volcano, which is at a distance of some 60 kilometers from Bohol. During the 14th several repetitions were felt at Jagna.

15, $2^h\ 49^m\ 50^s$* [15, $10^h\ 49^m\ 50^s$]. **Northern Luzon.** Earthquake of intensity V, felt in the northern part of Luzon, above parallel 18° north. Its center lies between the Babuyanes

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in Greenwich mean time (midnight=0^h), Insular time being added in brackets for the convenience of Philippine readers.

Islands and the northern coast of Luzon. The disturbance was registered by the seismographs of Manila and Taihoku (Formosa).

15, 19h 45m [16, 3h 45m]. **Jagna** (SE of Bohol). Earthquake of intensity III.

19, 18h 0m [20, 2h 0m]. **Sarangani** (S of Mindanao). Earthquake of intensity III.

19, 22h 20m [20, 6h 20m]. **Butuan** (N of Mindanao). Oscillatory earthquake; direction ENE–WSW, intensity IV, duration 4 seconds.

21, 8h 6m [21, 16h 6m]. **Sarangani** (S of Mindanao). Earthquake of intensity IV.

21, 15h 21m [21, 23h 21m]. **Zamboanga** (W of Mindanao). Earthquake of intensity II–III, lasting 2 seconds.

22, 15h 40m 24s* [22, 23h 40m 24s]. **Central Luzon.** Earthquake of force IV in the Province of Nueva Vizcaya, Benguet subprovince, and the southern part of Isabela province. The epicenter lay in the western part of Nueva Vizcaya.

22, 22h 32m 23s* [23, 6h 32m 23s]. **Calapan** (NE of Mindoro). Oscillatory earthquake; direction N–S, intensity IV, duration 3 seconds.

23, 4h 30m [23, 12h 30m]. **Butuan** (N of Mindanao). Oscillatory earthquake; direction ENE–WSW, intensity II–III, duration 2 seconds.

25, 7h 15m [25, 15h 15m]. **Agusan Valley** (Mindanao). Earthquake of intensity V, felt throughout the valley, from Butuan to Davao Bay. Its epicenter lay south of Talacogon, near parallel 8° north.

26, 1h 11m [26, 9h 11m]. **Legaspi** (SE of Luzon). Earthquake of intensity II–III.

27, 3h 10m [27, 11h 10m]. **Sarangani** (S of Mindanao). A light seismic shock of intensity II. Repeated at 7h 30m [15h 30m].

29, 12h 41m [29, 20h 41m]. **Butuan** (N of Mindanao). Oscillatory earthquake of intensity III, lasting 4 seconds.

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Mean Greenwich. Midnight=0h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T_0=7, ϵ=3.6; A_E: T_0= 7, ϵ=3. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
28	1	I_V	eP	18 07 30				Earthquake, IV, western Luzon.
			iS	07 52				
			eL	08 24				
			M_N	08 48	3	33		
			M_E	08 50	3		31	
			F	13 00				
29	1	I_V	eP	18 28 00				Earthquake, IV, western Luzon.
			iS	28 23				
			L	29 10				
			M_N	29 14	3	31		
			F	33 00				
30	9	I	e	23 22 28				
			F	33 00				
31	15	I_{II}	eP	2 49 50				Earthquake, V, northern Luzon.
			eL	50 42	4			
			M_E	52 08	5		300	
			F	3 12 00				
32	16	I_V	eP	9 33 02				
			eL	45 00				
			M_E	46 52	11		5	
			M_N	47 14	9–10	6		
			F	10 34 00				
33	17	I_{II}	eP	13 33 49				
			M_N	34 50	4	10		
			F	39 00				
34	17	I_{II}	eP	21 16 54				
			iS	17 12				
			M_N	17 52	3–4	13		
			F	21 00				
35	18	I	e	0 36 51				
			F	50 00				
36	18	I_{II}	eP	11 59 00				
			iL	59 16				
			M_N	59 44	3	9		
			F	12 05 00				
37	20	I	e	17 03 26				
			F	16 00				
38	22	II_V	eP	15 40 24				Earthquake, IV, central Luzon.
			iL	40 50	2–3			
			M_N	41 18	3–4	55		
			F	49 00				
39	22	I	eP	19 24 14				
			iS	25 15	4			
			iL	25 47	4			
			M_N	25 53	4	61		
			F	39 00				
40	22	I_V	eP	22 32 23				Earthquake, IV, Calapan (NE of Mindoro).
			eL	32 37	3			
			M_N	32 53	3	60		
			F	40 00				
41	25	I_V	eP	2 50 54				
			F	3 38 00				
42	25	I_{II}	eP	20 16 08				
			eL	16 23				
			M_N	16 36	3	10		
			F	19 00				
43	27	I	e	1 40 38				
			F	2 04 00				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

1, $6^h\ 45^m$ [1, $14^h\ 45^m$]. **Legaspi** (SE de Luzón). Temblor oscilatorio; dirección NNW–SSE, intensidad II–III. El origen debió estar en el volcán Mayón, situado cerca y al NNW de Legaspi.

1, $18^h\ 7^m\ 30^s$* [2, $2^h\ 7^m\ 30^s$]. **W de Luzón.** Temblor de tierra de intensidad IV, en las Provincias de Pangasinan, Benguet, y parte S de La Unión. El epicentro parece comprender la región montañosa del S de la Provincia de Benguet, donde se originaron los grandes terremotos de 1892. Las notas recibidas de las estaciones de Dagupan y Baguio dan la misma intensidad. A $18^h\ 28^m\ 0^s$* [$2^h 28^m\ 0^s$] hubo una repetición del fenómeno con la misma intensidad, dirección y extensión.

2, $22^h\ 58^m$ [3, $6^h\ 58^m$]. **Butuan** (N de Mindanao). Temblor oscilatorio, dirección ESE–WNW, intensidad II–III.

7, $4^h\ 35^m$ [7, $12^h\ 35^m$]. **Palanoc** (Masbate). Temblor de tierra de intensidad III.

8, $5^h\ 48^m$ [8, $13^h\ 48^m$]. **Guam** (Islas Marianas). Temblor de tierra de intensidad III.

11, $5^h\ 15^m$ [11, $13^h\ 15^m$]. **S de Bohol y N de Mindanao.** Temblor de tierra de intensidad III. Este temblor se sintió con la intensidad indicada en Jagna, en el extremo SE de la Isla de Bohol, donde se percibieron poco después dos aftershocks de menor intensidad. En las estaciones de Butuan y Cagayan del N de Mindanao, se sintió el temblor con intensidad II, pero no las repeticiones. Es muy probable que el origen de este temblor y de los del 12, 13 y 15 se halle en el mar al N de la isla volcánica de Camiguin, y que tenga alguna relación con la naturaleza volcánica de dicha Isla. No se registró ninguno en Manila aunque el del 13 se calificó de *fuerte* (IV–V), hecho que parece indicar su origen volcánico.

12, $17^h\ 15^m$ [13, $1^h\ 15^m$]. **Jagna** (SE de Bohol). Temblor de tierra de intensidad IV. Repitió 5 minutos después con menor intensidad.

13, $16^h\ 3^m$ [14, $0^h\ 3^m$]. **Guam** (Islas Marianas). Temblor de tierra de intensidad III.

13, $16^h\ 23^m$ [14, $0^h\ 23^m$]. **Isla de Bohol y E de Cebú.** Temblor de tierra de intensidad IV. En los pueblos situados en la costa S de Bohol fué acompañado de ruidos subterraneos procedentes del S, o sea de la dirección del volcán de Camiguin, que dista de Bohol unos 60 kilómetros. En Jagna se sintieron varias repeticiones durante el día 14.

15, $2^h\ 49^m\ 50^s$* [15, $10^h\ 49^m\ 50^s$]. **N de Luzón.** Temblor de tierra de intensidad V, sentido en todo el extremo N de Luzón, hasta el paralelo 18° N. El origen se hallaba entre las islas Babuyanes y la costa N de Luzón. Registráronlo los seismógrafos de Manila y de Taihoku (Formosa).

15, $19^h\ 45^m$ [16, $3^h\ 45^m$]. **Jagna** (Bohol). Temblor de tierra de intensidad III.

19, $18^h\ 0^m$ [20, $2^h\ 0^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III.

19, $22^h\ 20^m$ [20, $6^h\ 20^m$]. **Butuan** (N de Mindanao). Temblor oscilatorio; dirección ENE–WSW, intensidad IV, duración 4 segundos.

21, $8^h\ 6^m$ [21, $16^h\ 6^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad IV.

21, $15^h\ 21^m$ [21, $23^h\ 21^m$]. **Zamboanga** (W de Mindanao). Temblor oscilatorio de intensidad II–III, duración 2 segundos.

22, $15^h\ 40^m\ 24^s$* [22, $23^h\ 40^m\ 24^s$]. **Centro de Luzón.** Temblor de tierra de intensidad

[1] La intensidad de los terremotos se indica conforme a la conocida escala de De Rossi-Forel. Cuando a la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

IV en las Provincias de Nueva Vizcaya, Benguet, y parte S de La Isabela. El epicentro se hallaba en la parte occidental de Nueva Vizcaya.

22, $22^h\ 32^m\ 23^s$* [$23, 6^h\ 32^m\ 23^s$]. **Calapan** (NE de Mindoro). Temblor oscilatorio; dirección N–S, intensidad IV, duración 3 segundos.

23, $4^h\ 30^m$ [$23, 12^h\ 30^m$]. **Butuan** (N de Mindanao). Temblor oscilatorio; dirección ENE–WSW, intensidad II–III, duración 2 segundos.

25, $7^h\ 15^m$ [$25, 15^h\ 15^m$]. **Valle del Agusan.** Temblor de tierra de intensidad V, sentido en todo el valle desde Butuan hasta el seno de Davao. El epicentro se hallaba al S de Talacogon, cerca del paralelo 8° N.

26, $1^h\ 11^m$ [$26, 9^h\ 11^m$]. **Legaspi** (SE de Luzón). Temblor de tierra de intensidad II–III.

27, $3^h\ 10^m$ [$27, 11^h\ 10^m$]. **Sarangani** (S de Mindanao). Ligero choque seísmico de intensidad II. Repitió a $7^h\ 30^m$ [$15^h\ 30^m$].

29, $12^h\ 41^m$ [$29, 20^h\ 41^m$]. **Butuan** (N de Mindanao). Temblor oscilatorio de intensidad III, duración 4 segundos.

Registros de los Microseismografos.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

BULLETIN FOR MARCH, 1912.

METEOROLOGICAL BULLETIN FOR MARCH, 1912.

By Rev. JOSÉ CORONAS, S. J.,
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GENERAL WEATHER NOTES.

Pressure and temperature.—With the single exception of Aparri, all the meteorological stations report a monthly mean of atmospheric pressure in excess of that during the same month of the preceding year. At Manila it was 0.62 millimeter higher than the normal for the month and 0.68 millimeter higher than the mean for March, 1911. The barometric maxima occurred, as a rule, on the 25th in the Visayas, and on the 21st or 22d on Luzon Island. The minima were observed nearly everywhere on the 12th.

The mean monthly temperature was at all the stations somewhat higher than for March, 1911. For Manila, the following extremes have been recorded: 36.1° C on the 30th and 17.8° C on the 11th.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS FOR MARCH, 1912.

Station.	Pressure.						Temperature.					
	Mean.	Departure from March, 1911.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from March, 1911.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	760.50		761.63	25	758.45	12, 13	26.1		34.8	25		
Cebu	60.64	+ 1.10	61.93	25	58.41	12	27	+ 0.6	32.6	28	21.4	16
Iloilo	60.41	+ .79	61.75	25	58.38	13	27.3	+ .8	34.9	13	20.9	5
Ormoc	60.88	+ 1.13	62.42	25	58.68	12, 13	26	+ .9	33.8	30	17.5	19
Tacloban	61.19	+ .80	62.72	25	58.99	13	[a]26.4	+ .3	[a]33.5	26	20	19
Capiz	61.14	+ .94	62.30	22	58.62	12	26.9	+ .5	33.8	28	21.7	11
Calbayog	61.17	+ 1.08	62.54	25	58.81	13	25.7	+ .6	35.3	22	17.8	18
Legaspi	61.53	+ 1.16	62.92	25	58.84	12	27.3	+ 1	33.9	13	20.1	19
Atimonan	61.51	+ .79	62.71	19, 22	58.55	12	26.5	+ .4	33.7	12	19.6	10
Paracale	61.82	+ .93	63.29	22	58.76	12	26.3	+ .8	32.6	31	19.6	11
Manila	61.16	+ .68	62.47	22	58.50	12	26.9	+ 1.4	36.1	30	17.8	11
San Isidro	61.36	+ 1.03	63.10	22	58.38	12	27.3	+ 1.5	38	13	17.5	5, 11
Dagupan	60.64	+ .60	61.94	21	58.04	12	27.2	+ .6	37.5	28	18.7	1
Bolinao	60.77	+ .78	62.10	21	58.09	12	27.3	+ .8	35.9	25	20.3	6
Baguio[b]	638.27	+ .90	639.38	22	636.01	12	18.4	+ 1.1	27.5	26	12.2	27
Vigan	760.94	+ .89	762.26	21	758.34	12	26.8	+ .4	35.5	23	20.8	2
Tuguegarao	61.62	+ .66	63.92	19	58.15	12	26.8	+ 1.2	38.7	29	17	1, 3
Aparri	61.44	— .03	64.18	18	58.15	12	25.4	+ .9	33.5	27	18.6	3

[a] 30 days of observations only.
[b] The barometric readings of this station are not reduced to sea level.

Precipitation.—A simple glance at the following table of rainfall will show the reader that there was a general dearth of rain throughout the Philippines. Only seven stations figure with amounts slightly greater than the total rainfall during March of the preceding year; but even in these cases the differences between the actual rainfall and the normal amount for the month are invariably negative. As regards these normal values, it may be remarked that they are entered into the table only if it has been possible to derive them from at least nine to ten years of observation. The rain gauges of the Central Observatory collected during the entire month only 2.6 millimeters of water, which quantity is 15.9 millimeters short of the normal amount for the month, and 7.4 millimeters of the rainfall during March, 1911.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF MARCH, 1912.

Station.	Total.	Departure from March, 1911.	Departure from normal.	Rainy days.	Departure from March, 1911.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*	*mm.*			*mm.*	
Isabela, Basilan	1.8	+ 1.8		1	+ 1	1.8	2
Zamboanga	2.3	— .2	— 18.1	2	0	1.8	1
Davao	38.6	—134.6	—113.3	3	— 4	21.6	10
Cotabato	10.8	— 86.3	— 61.4	9	+ 1	3.5	6
Cagayan, Misamis	3.3			1		3.3	5
Dapitan [a]	42.4					16	6
Butuan	72.7	—110.3	— 84.5	17	+ 2	17.8	6
Dumaguete	3.8	— 32.9		2	— 4	2.5	6
Yap, W. Carolines	26.6	—308.3		18	— 8	5.8	31
Tagbilaran	4.6	—122	— 69.5	2	— 2	3.6	7
Surigao	132.5	—297.8	—143.6	18	+ 2	24.4	6
Maasin	17.5	—122.5	— 85.1	2	— 4	9.9	7
Cebu	14.4	— 4.6	— 43.6	6	— 1	6.9	7
Iloilo	8.4	— 19.1	— 22.1	2	— 2	8.1	5
San Jose Buenavista	.5	— 10.2		1	— 3	.5	5
Cuyo	3.8	+ 3.8		1	+ 1	3.8	5
Ormoc	8	— 68.5	— 70.1	7	— 3	3.6	21
Guiuan	55.1			16		12.9	22
Tacloban	43.7	— 95.1		10	— 8	9.9	12
Capiz	17.2	— 11.7	— 8.7	4	— 2	9.2	7
Borongan	62.6	—175.8	—167.6	21	+ 1	13.2	2
Calbayog	12.7	— 92	— 94.3	4	— 7	8.9	27
Masbate [b]	14.1	— 50.5		6	— 2	5.1	30
Romblon	21.9			7		7.1	3
Laoang	52.9			13		14	1
Gubat	61.3			9		22.4	19
Legaspi	76	— 60.5	—104	12	+ 2	19.5	19
Sumay, Guam	16	—151.8		7	—13	3.8	18
Calapan	81.8	+ 15.1		8	— 4	20.8	29
Virac	69.8	—117.2		17	— 3	19.6	19
Nueva Caceres	1	— 85.8	— 59	1	—11	1	19
Batangas	.9	— 11.9		3	— 1	.3	18, 19, 22
Atimonan	25.7	— 96.5	— 56.1	4	— 6	9.6	19
Silang	5.9			2		4.6	18
Paracale	105.5	—446		14	0	28.6	19
Sta. Cruz, La Laguna	30.4	— 50.3		10	— 1	10.9	23
Manila	2.6	— 7.4	— 15.9	3	— 1	2	16
Antipolo	3.5	— 28.6		2	— 4	2	15
Iba	2.5	— 59.2		3	— 3	1.9	15
San Isidro	5.3	— 4.1	— 8.3	1	— 5	5.3	18
Tarlac	9.7	— 5.3	— 15.5	1	— 3	9.7	18
Baler	104.1	—126.5		16	+ 4	23.6	3
Dagupan	3.8	— 17.1	— 26	1	— 3	3.8	10
Bolinao	.3	— 56.7	— 13.5	1	— 4	.3	9
Baguio	1	— 80.5	— 39.3	1	— 5	1	16
San Fernando, Union	3.6	+ 3.6	— 5.5	1	+ 1	3.6	20
Echagüe	9.4			2		6.1	17
Candon	0	— 25.6		0	— 3	0	0
Vigan	0	— 3.5	— 3.8	0	— 2	0	0
Tuguegarao	5.6	— 44.2	— 26.3	2	— 3	4.3	15
Laoag	0	0		0	0	0	0
Aparri	15.6	+ 1.2	— 32.7	3	— 4	14.3	14
Santo Domingo, Batanes	55.9	+ 39.9		6	0	35.6	30

[a] 26 days of observation.

[b] 30 days of observation only.

DEPRESSIONS AND TYPHOONS.

A single depression during the entire month is worth mentioning, though even this one barely influenced the Philippines. It would seem to have formed to the northeast of Luzon, at a distance exceeding 300 miles. Moving toward north-northeast, it acquired considerable development as it neared the eastern coasts of Japan. At 10 p. m. of the 17th, its center was close to the southeast coast of Nippon Island, and at the same hour of the 18th in the vicinity of the eastern coast of Yezo Island.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—A excepción solamente de Aparri, todas las demás estaciones de Filipinas nos dan una media mensual de la presión atmosférica mayor que la del año pasado. La de Manila difiere de la normal de este mes en +0.62 mm., y de la media mensual de Marzo, 1911, en +0.68 mm. Las mayores presiones tuvieron lugar generalmente el día 25 en las islas Visayas, y el 21 o 22 en Luzón. Las presiones menores del mes se registraron casi en todas partes el día 12.

La temperatura media mensual es para todas las estaciones algo mayor que la de Marzo del año anterior. Los valores extremos para Manila fueron 36.1 °C y 17.8 °C registrados respectivamente los días 30 y 11.

Precipitación acuosa.—Una simple ojeada a la tabla de lluvia que acompaña el texto inglés bastará para convencerse de lo general que fué durante este mes la falta de lluvia en todo el Archipiélago. Solamente son siete las estaciones que aparecen con un total de lluvia algo mayor que el año pasado. Las diferencias de estos mismos totales comparados con la normal de Marzo son todas negativas. Nótese con respecto a estas normales que únicamente las tenemos en cuenta para estaciones, de las cuales contamos cuando menos con 9 o 10 años de observación. En los pluviómetros de Manila no se recogieron en todo el mes más que 2.6 mm. de agua, cantidad inferior a la normal de este mes en 15.9 mm. y al total de Marzo, 1911, en 7.4 mm.

DEPRESIONES Y TIFONES.

Sola una depresión del Pacífico merece mencionarse este mes por más que apenas ejerció influencia alguna en Filipinas. Se formó, al parecer, al NE de Luzón y a una distancia mayor de 300 millas. Se movió al NNE adquiriendo notable desarrollo a medida que se iba acercando a la costa oriental de Japón. A 10 p. m. del 17 se hallaba el centro cerca de la costa sudeste de la Isla Nippon, y a 10 p. m. del 18 en los alrededores de la costa oriental de la Isla Yezo.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[a]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure (mean).	Air temperature.[b] Mean.	Air temperature.[b] Maximum.	Air temperature.[b] Minimum.	Underground temperature. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity (mean).	Vapor pressure (mean).	Evaporation.[b] Free exposure (total).	Evaporation.[b] Shelter (total).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	*Per ct.*	*mm.*	*mm.*	*mm.*
1	760.35	25.7	35.2	19.2	26.9	30.1	27.9	28.2	27	27.6	68	16.4	6.3	5.1
2	61.34	26.1	34.8	18.3	26.7	29.3	27.8	28.2	27	27.7	65.5	15.9	8.2	6.1
3	61.63	26.6	35.2	20	26.5	29	27.9	28.2	27	27.6	64.7	16.4	7.4	5.3
4	61.36	25.7	31.9	20	27	28.2	27.9	28	27.1	27.6	68.6	16.6	4.6	3.7
5	60.65	25.9	34.5	18	25.9	29.2	27.4	28	27.2	27.6	65.7	15.9	8	5.9
6	60.77	26.7	34.3	20	26.7	29.6	27.7	28.2	27.2	27.7	63.8	16.2	8.8	6.6
7	61.17	26.8	35.3	20.4	26.7	28.9	27.7	28.2	27.2	27.5	64	16.6	7.2	5.4
8	61.39	28.1	35.5	22	27.1	29.8	27.8	28.4	27.3	27.6	61.8	16.8	9.3	7
9	61.67	27.6	34.2	21.4	27.2	29	28	28.2	27.2	27.7	62.1	16.7	8.9	6.9
10	61.15	27.4	34.4	22.7	26.7	29.4	27.8	28.2	27.2	27.6	56.9	15	9.8	7.3
11	59.76	26	34	17.8	26.1	29	27.7	28.2	27.2	27.6	62.2	15.3	6.9	5.1
12	58.50	26.6	33.5	20.4	27	29.5	28	28.4	27.3	27.6	67.5	17.3	6.2	4.5
13	58.74	26.5	33.8	20.5	27.2	30	28.2	28.6	27.3	27.7	73.6	18.7	5.6	4.1
14	59.63	28.2	35.9	23	27.8	30.3	28.5	29	27.3	27.8	69.9	19.3	7.4	5.4
15	60.15	27.6	34.2	21.8	28.2	30.5	28.9	29.2	27.5	27.8	68.5	18.5	5.8	4.4
16	60.28	27.2	34.7	21.7	28.1	30.5	28.7	29.2	27.4	27.8	70.8	18.6	5.6	4.5
17	60.97	26.4	34.1	19.7	26.8	29.7	28.4	29	27.4	27.6	61.9	15.3	8.7	6.5
18	61.94	25.4	31.9	21.2	27.3	28.3	28.4	28.3	27.5	27.7	69.4	16.6	4.1	3.4
19	62.11	25.8	31	22.6	26.9	28	28.2	28.3	27.4	27.7	71.2	17.4	4.2	3.2
20	61.64	26.5	32.9	20.3	26.3	29.3	27.8	28.2	27.6	27.8	66.8	16.8	8.3	6
21	62.28	27	34.8	20.5	27	30.1	28	28.5	27.6	27.8	62.3	16	7.1	5.6
22	62.47	26.9	35	21.2	27.2	29.8	28.2	28.8	27.6	27.7	59.4	15.1	8.5	6.5
23	61.72	27.2	34.4	22.5	28.2	30.8	28.7	29.2	27.7	27.9	63.3	16.7	6.5	5.1
24	61.77	26.8	35.3	20.1	27.5	30.8	28.6	29.1	27.6	27.7	65.1	16.4	6.5	5.1
25	62.16	27.3	35.3	20.3	28.3	31.6	29.2	29.7	27.7	27.8	63.8	16.6	9.5	7
26	61.93	27.4	35.1	19.4	28.3	31.7	29.3	29.9	27.8	27.9	56.8	15	10.1	7.8
27	61.77	27.7	35.2	21.2	28.1	31.3	29.5	29.7	27.8	27.9	58.8	15.7	8.8	7
28	61.49	27.4	35.4	20.3	28	31.4	29.3	29.9	27.8	27.9	60.4	16	8.6	6.8
29	61.72	27.6	35	21.2	28.3	31	29.5	30	27.8	27.8	60.3	16.2	7.8	6.2
30	61.91	27.5	36.1	20.1	27.3	29.8	29.1	29.4	27.8	27.7	58.5	15.2	8.8	7.1
31	61.64	27	34.8	21.5	26.9	29.9	28.9	29.3	27.9	27.9	62.3	16.2	8.6	6.3
Mean	761.16	26.9	34.4	20.6	27.2	29.9	28.4	28.8	27.4	27.7	64.3	16.5	7.5	5.7
Total													232.1	176.9
Departure from normal	+0.62	+0.3	—2.1	—0.8							—7.3	—1.7		

Date.	Wind. Prevailing direction.	Wind. Total movement.	Wind. Maximum hourly velocity.	Wind. Direction at the time of the maximum velocity.	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Sunshine.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	*Km.*		*0–10.*			*h.* *m.*	*mm.*	
1	E	249	27	ESE	5.3		Cu. E	8 35	0.5	d p.
2	SE	245.5	25	SE	3.5	Ci.	Cu. E	8 55		
3	E	214.5	21	ENE	6.3	Ci.-S.	Cu. E	4 00		d a.
4	E	160.5	12.5	ENE	7.3	Ci.	Cu. E	2 40		
5	SE	271	25	SE	3.8	Ci.	Cu.	8 20		
6	SE	304.5	31	SE	3.6	Ci., A.-Cu.	Cu. E	9 20		
7	ESE	251.5	28	SE	5.1	Ci.-S.	Cu. E	8 20		
8	SE	258	24	SE	4.6		Cu. ESE	9 35		
9	SE	283.5	25	SE	4.7	Ci.	Cu. NE	8 00		
10	SE	367	33	SE	2.8	Ci., A.-Cu.	Cu. ENE	10 20		
11	W	204	16	NW	1.7	Ci.	Cu.	10 30		
12	SW	201	20	W	2.1	Ci.	Cu.	10 00		
13	W	206	24	SW	2.3	Ci.	Cu.	7 40		
14	SE	227	18	WNW	3.5	Ci.	Cu. E	8 30		
15	SE	196	17.5	WSW	7.4	Ci.	Cu.-N. E	5 20		
16	SE	184.5	22	SE	5.6	Ci.	Cu. E	7 30	2	☰° a. ● p.
17	SE	236	24	SE	5	Ci.-S. NNW	Cu.	8 05		◯° a.
18	E quad.	138.5	17	NNW	8.8	Ci.-S.	Cu.-N. E	1 45	.1	d° p.
19	ESE	175.5	14.5	WNW	9	A.-Cu.	Cu.-N. E	1 45		
20	SE quad.	296.5	32	SE	5.8	A.-Cu.	Cu. E	7 45		
21	ESE	199	23	ESE, ENE	6.5	Ci., A.-Cu.	Cu. E	6 20		
22	ENE	261	25	SE	4.2	Ci.	Cu. E	7 10		
23	ESE	208	20	SSE	5.6	Ci.	Cu. E	5 50		d° a.
24	SE	200.5	19	SE	5.2	A.-Cu.	Cu. E	6 30		d° a.
25	SE	279.5	31	SE	2.2		Cu. E	9 30		
26	ESE	339	25	SE	3	Ci.	Cu. SE	9 30		
27	ESE	242	25	SE	2.6		Cu. E	9 45		
28	ESE	227	19.5	E	3.8	A.-Cu.	Cu. E	9 00		
29	E	259	28	SE	4.8		Cu. E	6 25		
30	E	257	23.5	ESE	4.5	A.-Cu.	Cu. NE	6 25		☰° a.
31	ESE	257.5	27	ESE	5.8		Cu. ESE	8 10		☰° a.
Mean		238.7	23.3		4.7			7 28		
Total								231 30	2.6	
Departure from normal		+12.5			—0.3			—2 49	—15.9	

[a] All the mean values given in this table are deduced from hourly observations.
[b] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[a]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 26.2 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.21	25.1	31.9	------	84.8	NE quad.	0.7	7	Ci.-S.	Cu. E	------	
2	60.12	26.8	33.2	------	78.5	SE quad.	1	5.5	Ci.	Cu. E	------	
3	60.74	26.5	31.9	------	83.7	SE quad.	1	3.8	Ci.	Cu. SE, E	------	d° a.
4	60.23	25.7	34.4	------	79.8	NE	.8	2	Ci.	Cu. E	------	
5	59.90	24.4	31.3	------	86.8	NE quad.	1	6.8	Ci.-S.	N. NE	------	d° p.
6	60.44	25.4	30.6	------	84.5	NE	.5	8.3	Ci.-S.	Fr.-N., Cu. E	------	
7	60.23	26.8	31.5	------	85.3	NNE	.7	6.5	Ci.	Cu. E	3.6	●° d° p.
8	60.93	27	34.2	------	75	SE quad.	1.2	2.7	Ci.	Cu. E, SE	------	
9	61.32	25.6	32.9	------	74.8	S	1.3	1.7	Ci.	Cu. SE	------	
10	60.98	25.8	31.9	------	80	S	.7	2	Ci.	Cu. SE	------	
11	59.64	26.3	33.2	------	82.7	ESE, SSE	.7	2	Ci.	Cu. NE, E	------	
12	58.45	26.2	32	------	86.2	S	1	2.5	Ci.	Fr.-Cu. SE, E	------	d° p.
13	58.45	26.6	32.7	------	84	S	.5	2.2	Ci., Ci.-S.	Cu. SE, E	------	
14	59.66	26.6	33.9	------	76.2	Variable	.7	2.2	Ci. SE	Fr.-Cu. E	------	
15	59.85	25.7	32.3	------	74.8	SE quad.	1.2	2.5	Ci.-S., Ci.	Cu. SE	------	
16	60.05	26	32.1	------	75.5	Variable	.8	1.5	Ci.	Cu. E	------	
17	60.19	25.7	32.4	------	75.8	SE, S	.8	2.3	Ci.	Cu. E	------	
18	60.42	25.8	34.3	------	67.5	SE quad.	1.5	2.5	Ci.	Cu. SE	------	
19	61.07	25.8	34.2	------	68.5	Variable	1.2	1.7	Ci.	Cu. E, SE	------	
20	61.26	24.7	32.3	------	81.3	E	.2	3.3	Ci.-S., Ci.	Cu. ENE	------	
21	61.42	26.3	32.6	------	79	S, SE	1.3	6.5	Ci.	Fr.-Cu., N. SE	------	d° p.
22	61.55	26.8	34.7	------	74.2	Variable	.8	4.5	Ci. SSE	Cu. E, SE	------	
23	60.91	26.4	32.3	------	78.2	SE, NE	1	3.5	Ci. E	Cu. E	------	
24	61.20	25.8	32.7	------	81.7	S	.5	2.7	Ci.-S., Ci.	Cu. E, SE	------	
25	61.63	27.2	34.8	------	70.2	SE quad.	1.3	2.8	Ci.	Cu. E	------	☋2 p.
26	61.32	25.4	31.9	------	84.8	Variable	.8	2.7	Ci.-S.	Cu. E, SE	------	
27	60.90	25.4	31.9	------	83.5	S, SE	.5	2.3	Ci., Ci.-S.	Cu. E	------	
28	61.04	26.1	33	------	80.7	S	.8	2.2	Ci.	Cu. E quad.	------	
29	61.08	26.4	33.3	------	78.7	SSE, S	.8	2.8	Ci.	Fr.-Cu., Cu. E quad.	------	
30	60.67	27.3	33.3	------	77.3	S quad.	.8	3.2	Ci.	Cu. E	------	
31	60.62	26.8	32.8	------	76.7	E quad.	.8	5.3	Ci.-S.	Cu. E	1	d° a. ●° p.
Mean	760.50	26.1	32.8	------	79	----------	.9	3.5	----------	----------	------	
Total	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	4.6	

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.28	26.7	30.6	23	69.8	E	1.2	4.7	Ci.	Cu. E	1	♌ a. ☋ p.
2	60.24	27.1	31.6	23.3	67.8	NE quad.	1.3	3.7	A.-Cu. E	Cu. ENE	.8	●° a.
3	60.63	27.2	31.8	23.1	74.2	NE quad.	1	4.3	Ci.	Cu. E	------	♌ ●° a. ≲ p.
4	60.44	26.9	31.2	23.7	69.3	NE quad.	1.5	2.2	Ci.	Cu. E	------	♌ a. ☋ p.
5	59.82	26.2	30.7	22.5	72.2	NE quad.	1	5	Ci.	Cu., Cu.-N. E	------	♌ a.
6	60.40	27.3	31.4	24	67.3	E	.7	5.5	A.-Cu. ESE	S.-Cu. E	------	♌ a.
7	60.41	27	31.8	23.5	77.8	E	1	5.3	Ci.	Cu., Cu.-N. E	6.9	♌ a. ●° a. p.
8	61.30	27.2	31.4	23.9	74.5	E	1.5	3.3	Ci.	Cu. E	------	♌ a. ∞ p.
9	61.54	26.2	31.1	21.8	69.3	E	1.2	2.5	Ci.	Cu. E	------	♌2 a.
10	60.85	26.6	30.6	23.2	70	NE, E	1	3.2	Ci.	Cu. E	------	♌ a.
11	59.45	27	32	23	71.3	E	.8	2.5	Ci.	Cu. E	------	♌ a.
12	58.41	27.3	31.8	23.1	75.8	E	.7	3.2	Ci., A.-Cu.	Cu. E	------	♌ a. ≲ p.
13	58.56	28.2	32.4	24.5	72.3	E	1	4	Ci.	Cu., S.-Cu. E	------	♌ a. ∞ p.
14	59.82	27.6	31.5	23.9	70.3	E	.8	3	Ci.	Cu. E	------	♌ a. ∞ p.
15	60.22	26.6	31.2	21.8	69.2	E	1	4	Ci.-S.	Cu. ENE	------	♌ a.
16	60.17	26.5	32.2	21.4	68.2	NE, E	1	3.5	Ci., Ci.-S.	Cu. E	------	♌ ☋ a.
17	60.43	26.5	30.8	22.4	70.3	E	1.5	3	Ci.	Cu. E	------	
18	61.02	26.6	31.8	22	61.7	NE quad.	1.5	3.3	Ci.	Cu., S.-Cu. E	------	♌ a.
19	61.26	26.5	31.2	22.9	58.7	E	1	2.7	Ci.	Cu., S.-Cu. E	------	♌ a. ∞ p.
20	61.39	26.3	32.1	21.6	68.8	E	1	2.5	Ci.	Cu. E	------	♌ a.
21	61.64	26.6	30.7	24	74.3	NE	1.3	3.5	Ci.	Cu. E	------	♌ a. d p.
22	61.64	27	31	23.8	71.3	NE quad.	1.3	4	Ci., Ci.-S.	Cu. ENE	3.8	♌ a. ∞ p.
23	61.30	26.9	30.2	23.5	73.5	NE	1.3	5.5	Ci.	Cu.-N. ENE	.8	●° a.
24	61.27	26.8	32.2	22.4	71.8	NE	1	2.8	Ci.	Cu. E	------	♌ a.
25	61.93	27.4	31.4	23.9	68.3	E	1.7	2.7	Ci.	Cu. E	.3	♌ a. ∞ ☋ p.
26	61.44	27	31.2	22.9	72.3	NE, E	1.5	3.3	Ci.	Cu. E	------	d a.
27	61.13	27	31.2	23.3	71	NE quad.	1.3	2.7	Ci.	Cu. E	------	♌ a.
28	61.09	27.6	32.6	23.7	69.3	E	1.2	2.2	Ci.	Cu. E	------	♌ a. ∞ p.
29	61.02	27.6	31.7	24	69.8	NE, E	1.2	2.5	Ci.	Cu. E	------	♌ a. ∞ ☋ p.
30	60.93	28	31.4	24.9	69.7	E	1.5	3	Ci.	Cu. E	.8	♌ a.
31	60.72	26.9	30.5	23.2	71.7	NE, E	1.7	4.5	Ci.	Cu. E	------	d ⌒ a. ∞ ♌ p.
Mean	760.64	27	31.4	23.2	70.4	----------	1.2	3.5	----------	----------	------	
Total	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	14.4	

[a] All the mean values given in these tables are deduced from six daily observations.

Meteorological data for first and second class stations—Continued.

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Lower.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*				*mm.*	
1	759.10	27	32.2	23.1	65.7	NE qnad.	2.5	1.7	Ci.	Cu.		-------	
2	60.12	27	31.9	22.9	65	NE quad.	2.2	4.7	Ci.	S.-Cu.	NE	-------	
3	60.49	27	32.2	23.4	69.7	NE quad.	2.3	3.8	Ci.	S.-Cu.	NE	-------	☊ a. d p.
4	60.31	26.5	31	23.2	65.7	NE quad.	2.3	3.3	Ci.	Cu.	ENE	-------	☊ a.
5	59.79	25.7	31.6	20.9	70.5	NE quad.	2.3	4.7	Ci.	Cu.	NE	8.1	☊ a. ● p.
6	60.15	27	31.4	22.3	70.3	N quad.	1.7	8.7	Ci.	Cu.	NE	-------	
7	60.27	27.5	31.7	24.4	73.2	NE quad.	2	7	Ci.	Cu.	NE	.3	☊° a. d^2 p.
8	60.58	27.7	32.9	24.2	67	NE	1.8	4	Ci.	Cu.		-------	
9	61.47	26.7	32.3	22.8	59.8	NE quad.	2	.5	Ci.	Cu.		-------	☊° a.
10	60.75	26.6	31.9	22	65.8	NE quad.	2.2	.8	Ci.	Cu.-N.	NE	-------	☊° a.
11	59.40	27	33	22.1	66.8	NNW	1.3	2.8	Ci.	Cu.	NE	-------	☊ a.
12	58.39	28	34.5	23.3	66.5	Variable	1.2	1.8	Ci.	Cu.		-------	☊ a. ⌈◹ ◟° p.
13	58.38	27.7	34.9	24.3	70.8	Variable	1.5	1.8	Ci.	Cu.		-------	☊° a. ⌈◹ ◟ p.
14	59.49	28	33.9	23.6	63.2	NE quad.	1.7	2.8	Ci.	Cu.		-------	☊ a.
15	59.67	27.7	34.2	23.2	61.2	NE quad.	2.2	2.8	Ci.	Cu.		-------	☊ a.
16	59.88	27	33.7	22.5	60.7	NE quad.	1.8	2.3	Ci.	Cu.		-------	☊ ☰° a.
17	60.18	26.6	32	22	63	NE quad.	2.3	2.5	Ci.	S.-Cu.	NE	-------	
18	60.97	26.4	31.7	21.3	55.3	NE quad.	2.5	1.3	Ci.	Cu.	NE	-------	
19	61.12	27.2	32.6	22.7	56.8	NE quad.	2.2	2.5	Ci.	Cu.		-------	☊° a.
20	60.98	27.2	32.7	23	62.8	NE	1.8	1.8	Ci.	Cu.		-------	☊ a.
21	61.61	26.8	31.3	23.9	68.5	NE quad.	2	4.8	Ci.	Cu.	NE	-------	☊° a.
22	61.37	27.5	32.2	23.5	65.2	NE	2.5	4.3	Ci.	Cu.		-------	☊° a.
23	60.90	27.6	32.1	24.8	65.5	NE	2.2	5.5	Ci.	Cu.	NE	-------	d a.
24	60.97	27.8	34	23.4	64	NE quad.	1.5	2.5	Ci.	Cu.		-------	☊° a.
25	61.75	27.7	32.4	23.7	58.5	NE quad.	1.5	1.7	Ci.	Cu.		-------	☃ a.
26	61.20	27.2	32.9	23.1	62.7	NE quad.	1.8	1.2	Ci.	Cu.		-------	☊ a.
27	61.01	27	32.5	23.5	66.7	NE quad.	1.8	2.7	Ci.	Cu.-N.	NE	-------	☊ a.
28	60.72	28	33.8	24	62.7	NE quad.	2	2.2	Ci.	Cu.-N.	NE	-------	☊ a.
29	60.60	27.9	33	24.3	63.5	NE quad.	2.7	1.3	Ci.	Cu.-N.	NE	-------	☊° a.
30	60.57	28.4	33.6	24.4	61.2	NE quad.	2.2	1.7	Ci.	Cu.-N.	NE	-------	☊° a.
31	60.46	27.6	32.1	24.3	65.5	NE quad.	2.5	4.3	Ci.	Cu.-N.	NE	-------	☊ d° a.
Mean	760.41	27.3	32.7	23.2	64.6		2	3				-------	
Total												8.4	

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*				*mm.*	
1	759.51	26.7	31.8	21.3	61.8	NE	1.2	4.3	Ci.	Cu.	E	-------	☋° ☋° p.
2	60.36	26.8	32.5	22.5	66.3	NE	1	4.7	Ci.	Cu.	E	-------	☋° p.
3	60.85	25.8	30.5	22.2	76.7	Variable	.7	6.3	A.-Cu.	Cu., Cu.-N.	E	0.8	⌒ a. p a. p. ☋° p.
4	60.78	25.9	32.2	19.2	64.3	NE quad.	.7	2.5	Ci.	Cu.		-------	☊ a. ☋° p.
5	60.04	25.3	31.4	18.5	71.8	NE	.7	5.2	Ci., A.-Cu.	Cu.	E	-------	☊° a.
6	60.35	27	32.5	23.3	69.2	NE quad.	.8	7.3	A.-Cu.	Cu.-N.	E	.3	p p.
7	60.66	26.1	31.2	22.9	81.8	E quad.	.8	7	A.-Cu.	Cu.-N.	E	.8	p a. d° p.
8	61.41	25.6	31.6	20	71.8	E quad.	.8	3	Ci.	Cu.	E	-------	
9	61.89	25	32.4	17.7	66.8	NE quad.	1	1.7	Ci.	Cu.	E	-------	☊ a.
10	61.20	24.2	29.4	19.5	78	N quad.	.5	3.2	Ci.	Cu.	E	-------	☊° a. p p.
11	59.73	25.1	31.2	18.8	77.3	N, SW	.7	2.2	Ci.	Cu.	E	-------	☊° a. ◟° p.
12	58.68	25.8	30.6	20.1	77.2	Variable	.5	4.5	A.-Cu.	Cu.	E	.3	☊ a. p ◟ p.
13	58.68	26.2	31.7	21	77	Variable	.5	2.3	Ci.	Cu.	ENE	-------	☊ a.
14	60.08	25.3	32	19.6	69.2	SE	1.2	4.5	Ci.	Cu.	ENE	-------	☊° a.
15	60.38	24.5	31.6	17.6	72	NE quad.	.7	4.7	Ci.-S., Ci.	Cu.	ENE	-------	☊ a.
16	60.34	24.6	30.8	17.6	71.2	NE quad.	.7	5.2	Ci.-S.	Cu.	E, ENE	-------	☊ a.
17	60.67	25.4	31.6	19.5	65.8	NE	.7	4.2	Ci.	Cu.	E	-------	☊ p a.
18	61.33	25.4	31.9	18.5	63	NE quad.	1	3	Ci.	Cu.	E	-------	☊ a.
19	61.60	25.1	31.2	17.5	60.8	Variable	1.2	3.3	Ci.	Cu.	NE	-------	☊ a.
20	61.45	26.2	32.7	18.8	62	NE	.7	3.2	Ci.	Cu.	ENE	-------	☊° a.
21	62.01	24.7	28.8	21.3	77	NE quad.	.5	5.5	A.-Cu., Ci.	Cu.-N.	ESE	3.6	p ●° a.
22	61.83	27.8	32.6	22.8	60.7	NE quad.	1	4.7	Ci.	Cu.	E	-------	
23	61.50	26.2	32.1	21.5	71.5	N, SW	.7	4.5	Ci.-S.	Cu.-N.	E	1.6	d° a. ⌒ p.
24	61.67	25.4	32.6	19.2	74.3	Variable	.8	2.5	Ci.	Cu.	E	-------	☋° p.
25	62.42	26.5	32.5	20	64.8	NE	1	4.3	Ci.	Cu.	E	-------	
26	61.80	26.5	32.6	21.2	66.8	Variable	.8	3.5	Ci.	Cu.	E	.3	
27	61.44	27	32.6	22.7	67.5	E quad.	.7	3.7	Variable	Cu.	E	-------	d° a.
28	61.20	27.6	33.5	23.2	61.7	E quad.	.8	2.7	Ci.	Cu.	E	-------	
29	61.40	26.2	31.7	20.2	68	E quad.	.8	3.7	A.-Cu., Ci.	Cu., Cu.-N.	E	-------	
30	61.10	28.3	33.8	22.5	61	E quad.	.8	1.7	Ci.	Cu.	E	-------	
31	60.96	27.7	31.3	24.4	61.3	NE quad.	.7	4.8	A.-Cu.	Cu.	E	.3	p a.
Mean	760.88	26	31.8	20.5	69		.8	4				-------	
Total												8	

Meteorological data for first and second class stations—Continued.

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 3.4 meters; gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Wind. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.84	26.4	32.6	22.3	73.7	NE quad.	1.3	4	Ci.	Cu. E		☊² a.
2	60.74	26.6	31.7	22.9	74.2	Variable	1	3.3	Ci.-S.	Cu. E	1.3	☊² a. p.
3	61.22	26.5	31.2	23.4	81	E quad.	.8	6	Ci.-S.	Cu.-N. ENE	.8	☊² ● a. p p.
4	61.04	26.4	31.6	21.9	70.3	E	.8	2	Ci., Ci.-S.	Cu. ENE		☊² a.
5	60.37	26.5	32	22	75.3	Variable	.8	3.7	Ci.-S.	Cu. E		☌° a. ☊° a. p.
6	60.73			23.4		E quad.	.5	6.8	Ci.-Cu. SW	Cu. ENE		☊² a.
7	60.92	26.9	31.5	23	81.5	SE	.8	4.8	Ci.-S.	Cu. E	1	☊ ●° a.
8	61.82	27	31.7	24.5	72.2	E quad.	1.2	2.2	Ci.	Cu. E		☋° a.
9	62.13	26	32.2	21.7	73	E quad.	1.2	1	Ci.	Cu.		☊² a. p.
10	61.55	24.6	28.6	22	85	Variable	.5	4.7	A.-Cu., Ci.	Cu.-N.	5.9	☊² a. ● a. p.
11	59.92	25.9	30.2	22.1	82.7	WNW	.8	2.5	A.-Cu., Ci.	S.-Cu.		☊² a. p.
12	59.03	26.4	30.4	24.4	84.7	SE, S	1.2	6.3	Ci.-S.	Cu.-N. E	9.9	● a.
13	58.99	27	31.5	22.2	78.5	SSE	.5	3.7	Ci.	Cu.-N. E		☊² a.
14	60.39	26.4	31	23	74.8	E quad.	.8	3.8	Ci.-S., Ci. SW	Cu. E		☊² a. p.
15	60.72	25.9	30.6	21.3	74.8	SE quad.	.7	4.5	Ci. SW	Cu. E		☊² a.
16	60.69	26.3	31.9	21.2	75	SE quad.	.8	5.7	Ci.-S. SW	Cu. ENE	.8	☊² a. ●° p.
17	60.88	26.1	32.5	22.6	71.5	NW, SSE	1	5.2	Ci.-S.	Cu. E		☊² p.
18	61.54	25.5	32.9	21.3	69.5	SE quad.	1	4.5	Ci.-S.	Cu. ENE		☊² a.
19	61.90	25.4	32	20	75.8	Variable	1	3.7	Ci.-S. SW	Cu. ENE		☊² a.
20	61.82	26.6	32.5	21.3	72.8	Variable	.7	3.2	Ci. SW	Cu. ENE		☊° a. d p.
21	62.30	25.1	29	23	87.2	Variable	.2	5.5	Ci.-S.	Cu.-N. ENE	7.9	☊° a. ● d a. p.
22	62.28	27.1	32.9	22	74.2	E quad.	.7	6.3	Ci.-S. SW	Cu. E	2.8	
23	61.87	26	31.5	22.7	82.7	SSE	.7	7.3		Cu.-N. E	.8	● d a. ☊ p.
24	61.92	26.6	31.6	22	78.5	SSE	.8	3.2	Ci.-S., Ci. sw, ssw	S.-Cu., Cu.		☊² a.
25	62.72	27	33.2	22.6	73	NW, E	.8	5	Ci. SSW	Cu. E		☊² a.
26	61.98	27.3	33.5	22.9	72.8	SE	.7	3	Ci.	Cu. ENE	4.3	☊² a.
27	61.55	26.6	31.5	22.8	79.3	SSE	.8	2.8		Cu. E		● a.
28	61.67	27.1	31.6	22.5	75.3	S	1	6	Ci.-S.	Cu. E		☊² a.
29	61.60	26.4	31.8	22.2	77.5	E	.3	6.7		Cu.-N., Cu. E	1.8	● a. p.
30	61.58	27.2	33.4	24.2	76.2	E	.7	5.8	Ci.-S.	Cu. E		☋° p.
31	61.11	26.9	32.5	24	76.3	E, ENE	.5	4.7		Cu. E	6.4	● a.
Mean	761.19	26.4	31.7	22.5	76.6		.8	4.4				
Total											43.7	

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.04	26.6	32.4	22.8	77	NE	1	3.5	Ci.	Variable NE		
2	61.17	26.5	31.5	23	79.7	NE	.8	6.3	Ci.	Cu. NE		☋° p.
3	61.25	26.7	31.8	24	84.2	NE	1	7.5	Ci.-S.	N. NE	0.5	●° a.
4	61.20	26.6	32.9	23.2	76	NE	1.2	5	Ci.	Cu. NE		☋° p.
5	60.44	26.4	31.7	22.6	76.8	NE	.8	6	Ci.	Cu. NE		
6	60.77	26.9	32.9	22.5	80	NE	.8	7.2	Ci.	Cu., N. NE		
7	60.99	27.2	32.8	24.3	81.8	NE	1.2	7.2	Ci., Ci.-S.	Cu., N. NE	9.2	☐ ● ☾ p.
8	61.48	27.2	32.4	24.2	79.3	NE	1.3	3.8	Ci.	Cu. NE		
9	62.21	26.3	32.5	21.8	73.7	NE	1.2	1.3	Ci.	Fr.-Cu. E		
10	61.43	26.3	31.2	22.2	75.2	NE	1.3	4.2	Ci.	Cu. E		
11	60.04	26.4	32.4	21.7	79.2	NE	.7	4	Ci.	Cu. NE		
12	58.62	26.7	33.1	22.1	82	NE	.3	4.5	Ci.	Cu., N.-cf. NE		☾ p.
13	58.86	27.2	33.2	23.3	83.2	NE	.5	4.3	Ci.	Cu., N.-cf. NE		☾ p.
14	60.01	27.5	33.4	24.1	77.3	ENE, E	.8	4.8	Ci.	Fr.-Cu., N. E, NE		
15	60.45	26.5	32	22.5	76.5	E	.8	4.8	Ci.	Cu. NE, E		☋° ☊° a.
16	60.52	26.3	32.3	22.2	73.5	ENE	.8	4.3	Ci.	Cu. E		
17	60.98	26.3	32.8	22.2	75.2	NE	.8	5.2	Ci.	Fr.-Cu., Cu. NE		
18	61.75	27.1	33.2	23.2	59.7	NE	1.8	2.7	Ci.	Cu. E		
19	61.88	27	32.9	23.2	70.7	NE quad.	1	6	Ci.	Cu. E		
20	61.62	27.2	33.4	23.9	72.3	E	1	3.5	Ci.	Cu., N.-cf. E		
21	62.13	26.8	33	23.6	77.7	NE quad.	1.2	7.2	Ci.-S. E	Cu. E	1.5	●° p.
22	62.30	27.2	32.8	23.7	78.7	NE	1.3	5.8	Ci.-S.	Cu. ENE, NE		☋° p.
23	61.70	27.4	33.7	24.7	77	NE	1.2	6.8	Ci.-S.	N., Fr.-N. NE		
24	61.83	27.1	32.8	23.4	78.7	NE	.5	5	Ci.	N. E		☋ p.
25	62.18	27.5	33.3	23.4	72.2	NE	1.3	3	Ci.	Cu. NE		☋ p.
26	61.84	27.4	33.3	23	73.8	NE	1.2	4.5	Ci.	Cu. NE		
27	61.55	26.8	32.8	23.5	78.7	NE	1.3	4.8	Ci.	Cu. NE		
28	61.42	27.7	33.8	23.8	74.8	NE	1.3	2.3	Ci.-S.	Cu. E		
29	61.54	27.5	33.7	23.7	74.8	NE	1.3	3.8	A.-Cu. E	Cu. NE		
30	61.50	27.7	33.2	24.2	73.3	NE	1.2	2.7		Cu. NE, E		☋ p.
31	61.54	26.4	32.4	23.1	80	NE	1.2	6.7	Ci.-S.	N. E	6	● a. p.
Mean	761.14	26.9	32.8	23.2	76.5		1	4.8				
Total											17.2	

Meteorological data for first and second class stations—Continued.

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.93	25.1	32.2	20.4	76.5	N	1	0.5		Cu. E		
2	60.84	26.1	32.9	20.7	76.5	NE	.8	2.7	Ci.-S., A.-Cu.	S.-Cu. ENE	1	☋° p.
3	61.22	26.4	32.5	22.9	79.7	NE quad.	1	4.7	A.-Cu.	S.-Cu. ENE		☋ d° a.
4	61.16	25.6	33.2	20.6	71.2	N quad.	1	1.5	Ci.	Cu. ENE		☊ ☰° a. ☋ p.
5	60.34	25.5	32.4	19.9	78.3	NE quad.	.7	5	Ci., A.-Cu.	S.-Cu. ENE	.5	d a. ☋ p.
6	60.82	26.5	34.6	21.6	76	NNE	.8	4	Ci., Ci.-S.	S.-cf., Cu. E, ESE		
7	61.09	26.2	32.8	23	80.7	NE quad.	.8	2.7	Ci.-S.	S.-cf. E		
8	61.76	26.6	34.7	21.1	72.5	E	1	2		Cu. E		
9	62.19	25.1	33.7	19.3	71.5	NE quad.	1	.8		Cu. E		
10	61.64	23.9	29.2	19.6	85.3	SSE	.5	3.8	A.-Cu. SE	S.-Cu. ENE		d° p.
11	59.94	25.3	31.2	19.9	81.8	Variable	.7	2.3	Ci.	Cu. E		♌ a.
12	58.86	25.6	30.2	21.5	83.7	Variable	.7	4.8	Ci.-S.	S.-Cu. SEbyE		♅ ♐° d° p.
13	58.81	26.4	31.7	21.4	79.8	S, SSW	.3	3.2	Ci.	S.-Cu. SEbyE		
14	60.12	25.6	30.7	21.1	81.2	Variable	.5	1.8	Ci.	Cu. NE		
15	60.57	25	31.4	19.5	79.7	N quad.	.8	3.5	Ci.	S.-Cu. ENE		
16	60.57	25.6	32.6	18.7	73.2	Variable	.7	1.5	Ci.	Cu. ENE		
17	60.91	25.1	32.2	19.3	73.8	NE quad.	.7	4	Ci.-S.	Cu. NE		
18	61.55	24.8	34.5	17.8	71.2	N	1.2	.3	Ci.	Cu., S.-Cu.		
19	61.75	24.2	29.5	18.6	82.5	Variable	.7	3.7	Ci., Ci.-S.	S.-Cu. NE		♁° a.
20	61.68	26.1	32.7	20.2	76.5	Variable	.5	3	Ci.	Cu. ENE		
21	62.30	26	32.7	22.4	77.5	E quad.	.7	6	Ci.	S.-Cu. ENE		d a. p.
22	62.28	27.3	35.3	22	73.3	E quad.	.8	5.3	Ci.	Cu. E, ENE		
23	61.57	26.8	34.7	22.9	73.8	NE quad.	1.3	5.3	Ci.-S.	S.-Cu. ENE		
24	61.66	26.2	32.5	20.8	78.7	Variable	.5	1.5	Ci.	Cu., S.-Cu. ENE		
25	62.54	26.2	34.9	20.5	69.3	E quad.	.5	2.3	Ci.	Cu. ENE		☋ p.
26	62.03	25.6	33.7	20.4	74.5	N quad.	.8	3	Ci.	S.-Cu., Cu. E, ENE		☋ p.
27	61.79	25.1	30.3	21.3	84	NNE	.2	4.7	A.-Cu.	S.-Cu. ENE	8.9	● a. d° ☋ p.
28	61.54	26.3	33.7	20.6	73.8	Variable	.7	1.3	A.-Cu. ESE	Cu. E		d° p.
29	61.88	24.4	31.1	21	87	Variable	.8	5.2	Ci.-S.	S.-Cu. ESE	2.3	d a. p. ☋ p.
30	61.61	26.4	34.1	20.9	76	NE quad.	.7	2.2		Cu. E		☰° a. ☋ p.
31	61.35	26.4	33.5	22.2	75.3	E	.5	3.5	Ci.-S., A.-Cu.	S.-Cu. ENE		d° a.
Mean	761.17	25.7	32.6	20.7	77.3		.7	3.1				
Total											12.7	

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.77 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.47	27.4	32.6	23.5	74.5	NE	1.5	2.3		Cu.-N. ENE		☾° p,
2	61.26	26.8	32	23.5	76.7	NE	1.5	3.3	Ci.-S., A.-Cu.	Cu. ENE		d° a.
3	61.73	27.4	32.1	23.1	79.2	NE	1.3	1.5		Cu. E		☾° p.
4	61.48	27.4	32.5	23	72.2	NE	1.3	1.5	Ci.	Cu.	1.3	
5	60.85	27.1	33.1	22.5	76.3	NE	1	3.3	Ci.	Cu. E		p a.
6	61.33	27.6	33.2	23.4	76.3	NE	1.3	3	A.-Cu.	Cu. ENE	1	● p.
7	61.57	27.4	32.5	23.4	82.2	NE	1.2	5.5	Ci.-S.	Fr.-N., N. ENE	1.8	● a.
8	62.03	28	32.5	24.2	77.5	NE	1.3	1.5		Cu.		
9	62.46	27.5	32.5	23.6	74.3	ENE, NE	1	1.7	Ci.	Cu.		
10	61.78	27.4	32.9	23	72.8	NE	1.5	1.2	Ci.	Cu. ENE	.3	
11	59.99	27.2	32.9	23.2	74.8	NE	.8	2.7	A.-Cu. SE	Cu. E		d a.
12	58.84	26.8	33.4	20.4	83.2	NE	.8	2.7	A.-Cu. SE	Cu. E		☰ a.
13	59	27.7	33.9	21.5	80.7	NE, E	1	2	Ci.	Cu. ENE		☰ a.
14	60.39	28.1	33	24.4	78.2	NE, E	1.5	2.2	Ci.	Cu.		
15	60.80	27.5	33	23.9	75.5	ENE	1.2	2.8	Ci.	Cu. E		
16	60.85	26.9	33.1	20.4	74.7	NE	1	2.2	Ci.	Cu.-N. E	.8	
17	61.42	25.6	31.6	20.6	78.5	NE	.7	5.2	Ci.-S.	Cu. NE	2.8	● a. p.
18	61.89	27.2	32.6	22.4	70.5	NE quad.	1.2	.8	Ci.	Cu. ENE		
19	62.06	25.8	32.6	20.1	80.3	NE	1.7	6.5	Ci.-S.	Cu. NE	19.5	● p.
20	62.01	27.2	31.7	22.5	78.5	NE	1.3	4	A.-Cu. NE	Cu. ENE		
21	62.58	27.7	32.8	23.6	76.8	NE	1.3	1.8	Ci.	Cu. E		
22	62.72	27.2	31.9	24.6	80.8	NE	2	3.7	Ci.-S.	Cu. E	5.9	● a. p.
23	62.18	28	32.9	24.9	76	NE, E	2	1.8	Ci.	Cu. E		
24	62.09	28.4	33.5	24	76.7	ENE	1.2	1.7		Cu.-N. E		
25	62.92	28.1	32.5	24.1	73.3	NE, ENE	1.3	1.7	Ci.	Cu. ENE		
26	62.61	27	32	22	77.2	ENE, NE	1.3	2.8	Variable	Cu. ENE	4.6	● a.
27	62.14	27.3	32.9	23.3	77.5	NE	1.5	4.5	Ci.-S.	Cu., Fr.-N. E, ENE	2.5	● p.
28	62.05	27.8	32.5	23.6	77.2	NE	1.5	1.7		Cu.-N. ENE		● a.
29	62.03	27	32.1	23.5	77.8	ENE	1.3	4.8	Ci.-S.	Cu. E	17.2	● p.
30	62.07	27.5	32.1	22.9	78.8	NE	1.8	2.8	A.-Cu.	Cu. E	12.7	● a. p.
31	61.87	26.8	32	22.5	78.7	NE, NNE	1.3	5.5	Ci.-S.	Cu. ENE	5.6	● a.
Mean	761.53	27.3	32.6	23	77		1.3	2.9				
Total											76	

Meteorological data for first and second class stations—Continued.

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction.			
									Upper.	Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.62	26.4	29.7	24.4	79.3	N quad.	2.7	4.5	A.-Cu. ENE, E	S.-Cu., Cu. NE		d² a. ☋² p.
2	61.74	26.3	29.1	24.7	77.3	NE	2.7	5.3	Ci. S	S.-Cu., Cu. NE quad.	0.6	☋° a. d² ☋² p.
3	61.97	27	31.4	24.7	79.8	NE	2	6.8	Ci. E	Cu. NE, E		☋° a. p. d² p.
4	61.61	25.6	30.4	20.4	79	NE	2	4	Ci. SSE	Cu. NE		☋² a. p. Ω ≡° a.
5	61.08	26.4	29.5	24.7	77.7	NE	2.5	6.8	A.-Cu. E	S.-Cu. NE		☋ a. ☋² p.
6	61.18	27.6	31.2	23.6	75.3	NE	1.5	5.5	Ci.	Cu. NE, E		d. p.
7	61.56	26.5	31.5	22.3	78.5	NE	1.7	4.8	Ci.	S.-Cu. NE		d. p.
8	61.86	27	31.9	23.4	78.8	NE, N	1.5	6.5	A.-S.	Cu. Variable		
9	62.32	26.6	30.7	22.4	79	NE	1.8	3	A.-Cu. ENE	Cu. E		Ω ≡ a.
10	61.93	25.2	31.2	19.6	76.7	NE	1.7	1.5	Ci.	S., Cu. NE		
11	60.17	24.9	29.2	20.4	79.2	NE, NW	1.2	1.8	Ci.	Cu. E		
12	58.55	25.5	33.7	20.2	81.3	SW	1.2	3.3	Ci.	Cu. S		Ω a.
13	58.78	26.4	31.5	21.4	82.5	NE, SW	1.3	4.8	Ci.	Cu. S		Ω a.
14	59.90	26.8	31.2	22.9	81.5	NE quad.	1.2	3.3	Ci.	Cu. SE		Ω° a.
15	60.53	26.8	32.7	22.3	80.5	N quad.	1.5	4.2	Ci. SW	Cu., S.-Cu. E, NE		Ω° a.
16	60.64	26.3	30.7	22.3	77	SW	1.5	5	Ci. S	S.-Cu., Cu. ENE, SE		d° a.
17	61.27	25.4	30.4	21.1	75.7	Variable	2	4	Ci.	Cu. NE		Ω a.
18	62.13	27.2	32.4	23	73.3	NE	2.7	6	A.-Cu. NE	Cu., S.-Cu. NE	7.4	● p.
19	62.71	24.4	25.8	22.1	87.5	NE	3	10	Ci.	N. NE	9.6	● a. p. d° ● p.
20	62.12	26.2	30.5	23.3	80.3	NE, E	1.7	7.7	A.-Cu. E	S.-Cu. E	4.3	d° a. p. ● p.
21	62.57	25.6	29.9	20.6	82.5	NE, N	2.2	2	Ci. E	Cu., S.-Cu. NE		Ω ≡ a.
22	62.71	27.7	31.8	25.4	75.8	NE	2.3	4.7	A.-Cu. E	S.-Cu., Cu. NE		
23	61.95	27.4	31.1	25.5	77.3	NE	2.5	5.8	Ci.	S.-Cu. NE		⌒ a.
24	62.14	26.5	30.9	21.7	83.2	SW, N	1.7	3.5	Ci.	Cu., S.-Cu. SE, NE		Ω ≡° a.
25	62.53	27.6	31.6	23.8	76.2	NE	2.2	3.8	A.-Cu. E	Cu. E, SE		
26	62.38	25.8	32	21	78.2	NE	1.8	5	A.-Cu. E	S.-Cu. E		Ω ≡° a. d° p.
27	62.20	27.2	32	23	74.5	NE, N	1.7	3.7	A.-Cu. NE	Cu., S.-Cu. NE		
28	61.60	27.5	31.3	25.7	76.8	NE, N	1.8	5.8	Ci., Ci.-S.	S.-Cu. NE, N		d° ☋° p.
29	61.88	27.2	31.6	22.5	77.7	NE	2	5	A.-Cu. E	S.-Cu., Cu. NE		☋° p.
30	62.07	28	32	25.5	74	NE	2.5	3.8	A.-Cu. E	Cu. E		
31	62.01	27.4	31.3	25	77	NE	3	5.8	A.-Cu. ENE, E	S.-Cu., Cu. NE	3.8	d° p.
Mean	761.51	26.5	31	22.9	78.5		2	4.8				
Total											25.7	

PARACALE.

[ϕ=14° 17′ N; λ=122° 47′ E; barometer above sea, 5.3 meters; gravity correction not applied, —1.73 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*				*mm.*	
1	760.92	26	30.3	22.8	81.8	NE, ENE	1.3	5.8	Ci., Ci.-S.	Cu.	E		p° ●° a.
2	61.95	26.6	29.8	24.5	77.8	NE	1.8	6.8	Ci., Ci.-S.	Cu.	E	4.1	●° a. p° p.
3	62.22	26.1	30.3	23.4	85	ENE	1.2	5.3	Ci., Ci.-S.	Cu.	E	2	● a. Ω p.
4	61.93	25.6	30.6	21.5	80	E quad.	1.	3.2	Ci.	Cu.	E		Ω² a. ☋ p.
5	61.19	26.2	30.4	22.5	81	E	1.2	7.2	Ci., Ci.-S.	Cu.	E	3.8	●° a. ● a. p.
6	61.63	26.1	31.2	22	83.8	ENE	.8	3	Ci.	Cu.	E		
7	61.88	26	30	23.2	87.3	ENE	1	6.7	Ci.	Cu.	E	4.5	Ω a. ● p.
8	62.08	26.1	31.3	22.2	85.2	NE	.8	.8	Ci.	Cu.	E		Ω p.
9	62.56	26	31.2	21.5	79.3	NE	1	1	Ci.	Cu.	E		Ω² a.
10	62.02	25.1	31	20.9	81.2	NE	.5	2.7	Ci.	Cu.	E		Ω a. p.
11	60.38	24.9	31	19.6	82	E, NE	.3	1.3	Ci.	Cu.	E		Ω² a. Ω p.
12	58.76	25.8	31.8	20.7	84.3	NNE	.3	1.5	Ci.	Cu.	ESE, SW		Ω a. p.
13	59.18	26.6	32	21.5	83.2	E quad.	.5	2.2	Ci.	Cu.	SW		Ω a. p.
14	60.21	26.8	32	22.6	83.7	NNE	.8	2.8	Ci.	Cu.	E		Ω a. p.
15	60.72	26.5	31.7	21.8	81.2	NE	.7	3.3	Ci.	Cu.	E		Ω² a. Ω p.
16	60.94	25.8	31.7	21.8	80.2	E quad.	.8	1.7	Ci.	Cu.	E		Ω a. p.
17	61.69	25.7	31.3	20.5	78.5	E	.8	4	Ci.	Cu.	E		Ω² a.
18	62.39	26.7	31.6	22.5	75.7	E quad.	1.8	6.5	Ci., Ci.-S.	Cu.	E	18.3	Ω° a. d° ● p.
19	62.76	24.5	26.6	22.5	88.3	ENE	2.5	10	Ci.-S.	S.-Cu.	ENE	28.6	● a. p.
20	62.25	26.6	30	23.7	79.8	ENE	1.5	8.3	Ci.-S.	Cu.	ENE	.5	● a. Ω² p.
21	62.93	26.1	30.6	22.6	84.3	ENE	.8	6.7	Ci.	Cu.	ENE	10.9	Ω² a. ● p.
22	63.29	26.7	30.8	23.8	83.8	ENE	1.3	5.7	Ci.	Cu.	ENE	4.1	● a. p.
23	62.39	27	30.8	24	82.7	ENE	2.2	6	Ci.	Cu.	ENE		p ● a.
24	62.54	26.6	30.8	22	83.8	ENE	1	3.2	Ci.	Cu.	E	.5	Ω² a.
25	63.04	26.8	31.7	21.9	81.2	ENE	1.2	3.7	Ci.	Cu.	E		●° a. Ω² p.
26	62.74	24.6	30.4	20	85.2	E	.8	4.5	Ci., Ci.-S.	Cu.	E	2.3	Ω² a. ●° ⌒ p.
27	62.44	27	31.3	23.3	78.5	E	1.3	2.7	Ci.	Cu.	E		Ω d° a.
28	62.13	27.4	31.3	24.6	79.8	E	.8	3.3	Ci.	Cu.	E		
29	62.26	27.4	31.6	25	78	E	1.5	5	Ci., A.-Cu.	Cu.	E	3	● a.
30	62.56	27.6	31.8	25.4	75.3	E	1.7	2.8	Ci.	Cu.	E		┼ a.
31	62.32	27.3	32.6	23.2	79	ENE	1.7	6.5	Ci.	Cu.	E	22.9	● p.
Mean	761.82	26.3	31	22.5	81.6		1.1	4.3					
Total												105.5	

Meteorological data for first and second class stations—Continued.

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.		Clouds. Prevailing form and its direction. Lower.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	760.64	26.2	33.7	18.4	64.5	E	3.3	2.7	Ci.		Cu.	E	-------	☊ a. ☌° p.
2	61.49	26.6	33.7	19	62.3	NE quad.	2.5	3.2	A.-Cu.	ENE	Cu.	E	-------	☊ a. ☊° p.
3	61.92	27.2	35.2	21.5	63.3	NE	2.2	3.8	A.-Cu.	E	Cu.	ESE	-------	☊° a. p.
4	61.70	26.2	33.4	20.4	67.2	NE	2	6.5	A.-Cu.	ESE	Cu.	E	-------	☊° ☍° a.
5	60.86	26	35	17.5	67.5	E	1.7	4	Ci.		Cu.	E	-------	☊ a. p.
6	60.92	27.1	35.2	19	64.3	ENE	2	3.2	A.-Cu.	ESE	Cu.	E	-------	☊ a. p.
7	61.45	27.4	34.5	19.8	63.5	ENE	2.7	4.3	A.-Cu.	ESE	Cu.	E	-------	☊ a. ☋° p.
8	61.65	28.2	35.5	22	63.5	NE	2.3	4.3	A.-Cu.	ESE	Cu.	E	-------	☊ a.
9	61.87	28.8	36	22	60.7	ENE	1.5	5	Ci.		Cu.	E	-------	☊° a.
10	61.40	27.8	34.4	21.5	60	E, NE	1.8	4	Ci.		Cu.	E	-------	☊ a.
11	59.76	27	36.2	17.5	60.2	N	1.5	2.5	A.-Cu.		Cu.	E	-------	☊² a.
12	58.38	28.6	37.4	20.4	60.5	Variable	1.5	3.5	Ci.		Cu.	E	-------	☊ a.
13	58.62	28.4	38	20	62.3	NE	1.3	3.7	Ci.		Cu.	W	-------	☊ a.
14	59.62	29	37.7	22.6	63.7	N, NW	1.7	4.7	Ci.	NE	Cu.	W	-------	☍° ☇ p.
15	60.47	27.2	33	21.6	66.3	N, ENE	1.5	5.7	A.-Cu.	ESE	Cu.	E	-------	
16	60.44	28.2	36.2	20.2	63.8	NE	1.5	3.3	A.-Cu.	ESE	Cu.	E quad.	-------	☊ ☰° a.
17	60.99	28.3	36	21.8	60.8	ENE	1.5	5.7	Ci.	SE	Cu.	NE	-------	☊° a.
18	62.02	26.3	32.1	23.7	74.3	NE	1.5	9.2	A.-Cu.	ESE	N.	ENE	5.3	☊° a. ● p.
19	62.32	26.3	32.7	22.6	67.8	NE, ESE	2.3	5	A.-Cu.	ESE	N.	E	-------	☊ p.
20	61.76	27.3	34.9	19.6	64.7	ENE	2.3	3.2	A.-Cu.	ESE	Cu.	E	-------	☊ a.
21	62.60	27	34.5	20.5	66	ENE	2.3	3.3	A.-Cu.	ESE	Cu.	ENE	-------	☊ a.
22	63.10	27.2	34.4	19.4	61.2	NE, E	3	3.2	A.-Cu., Ci.		Cu.	E quad.	-------	☊ a.
23	61.94	27.2	34.6	20.9	62.5	NE	1.8	3.8	A.-Cu.	ESE	Cu.	E	-------	☊ a. p.
24	61.89	27.1	35.9	19	66.2	ENE	1.7	3.8	Ci.		Cu.	E	-------	☊ a.
25	62.44	27.9	35	21	63	ENE	2.3	4.2	A.-Cu.	ESE	Cu.	E	-------	☊ a. ☊° p.
26	62.20	27	34.7	20	62.8	ENE	2.5	2.2	A.-Cu.	ESE	Cu.	E	-------	☊ a. ☊° p.
27	62.04	27.3	34.7	19.5	62.2	ENE	2.7	2.5	A.-Cu.		Cu.	E	-------	☊ a. p.
28	61.66	27	34.9	19	62.8	E quad.	2.8	2	Ci.		Cu.	E	-------	☊ a. ☊° p.
29	61.93	27.6	36	19.5	62.8	E quad.	2.7	3.3	A.-Cu.	ESE	Cu.	E	-------	☊ a. ☊° p.
30	62.14	27.7	34.9	20.9	59.5	E	3.3	4	A.-Cu.	ESE	Cu.	E	-------	☊ a. ☌° ☊° p.
31	61.98	26.5	35	19.8	66.2	N, ESE	2.8	4	A.-Cu.	ESE	N.	E	-------	☊ a. p.
Mean	761.36	27.3	35	20.3	63.8		2.1	4					-------	
Total													5.3	

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*				*mm.*	
1	759.91	26.5	36.6	18.7	72.5	Variable	0.5	1.7	-------		Cu., S.-Cu.	-------	☊² a.
2	60.68	26.1	35.9	20	73.3	SE quad.	1.3	1	Ci.		Cu., S.-Cu.	-------	
3	61.05	27.9	36.7	21.8	71.2	SE	1.8	4	Ci.		Cu., S.-Cu.	-------	
4	60.74	28.3	36.4	22.4	71.7	SSE, SE	1.3	5.5	A.-Cu.		S.-Cu.	-------	
5	59.97	26.9	36.9	19.6	74.7	SE quad.	1.7	1.3	Ci.		Cu., S.-Cu.	-------	☋ a.
6	60.24	26	36	20.5	83.5	SE	1.5	1.7	Ci.		Cu., S.-Cu.	-------	☰° p.
7	60.64	26.2	34.3	20.3	83.5	Variable	1	.7	-------		Cu., S.-Cu.	-------	☊² ☰ a.
8	60.82	27.6	37.4	22	78.8	SE, NW	1.3	3.8	-------		Cu., S.-Cu.	-------	
9	61.17	27.6	36.1	21.8	76	S, NW	1	2.8	Ci., A.-Cu.		S.-Cu.	-------	
10	60.59	28.4	36.6	22.9	75.7	NW	.8	5.7	A.-Cu.		Fr.-Cu.	SE 3.8	☌° p.
11	59.36	26	33	20.1	81	SE, NW	1.3	1	Ci.		Cu., S.-Cu.	-------	
12	58.04	26.8	33.4	21	78.3	NW quad.	1.2	1.2	Ci.		Cu., S.-Cu.	-------	☊ ☰ a.
13	58.47	26.5	32.2	21.1	82.5	NW	1	2	Ci.		Cu., S.-Cu.	-------	☊² ☰ a.
14	59.32	26.7	31.2	21.9	82.2	NW	1	2.7	Ci.		Cu., S.-Cu.	-------	☇° p.
15	59.80	27.2	34.6	21.8	82.5	Variable	1.2	4.3	A.-Cu.		S.-Cu.	SE -------	
16	60.16	27.2	30.7	23.4	84.8	NW	1.7	3.8	Ci.		S.-Cu.	-------	
17	60.81	26.6	30.4	23.3	86.3	NW quad.	1.5	7	Ci.		S.-Cu.	NW -------	
18	61.07	27.1	32.9	23.4	83	Variable	1	6.3	A.-Cu.		S.-Cu.	N -------	☍° p.
19	61.37	27	35	22.7	75.3	S, NW	1.5	4.7	-------		S.-Cu.	SE -------	
20	61.13	27.1	35.5	21.1	77.2	SE, NW	1.5	3.7	Ci.		Cu., S.-Cu.	-------	
21	61.94	27.5	34.1	22.9	76.2	Variable	1	4.5	A.-Cu.		Cu.	SE -------	☰° a.
22	61.82	28.3	36.4	22.3	65.7	SE	1.8	.8	-------		Cu.	-------	
23	60.98	27.9	36.6	18.8	69.2	SE	1	1.2	A.-Cu.		Cu., S.-Cu.	-------	☊° ☰° a.
24	61.36	26.3	32.4	20	81.5	NW	1	1.2	-------		Cu., S.-Cu.	-------	
25	61.45	28.4	37.1	22.4	77.2	SE, NW	1.8	2.8	-------		Cu., S.-Cu.	-------	
26	61.13	28.2	36.2	22	63.3	SE, SSE	1.8	.8	-------		Cu., S.-Cu.	-------	
27	61.26	27.2	36.4	20	68.8	SE, NW	1.3	.5	Ci.		Cu.	-------	
28	60.91	27.6	37.5	20.5	72.5	S quad.	1.2	.8	-------		Cu., S.-Cu.	-------	
29	61.17	27.1	34.9	21	76.2	Variable	1.3	1.7	-------		Cu.	-------	
30	61.28	27.2	36.6	22	74.8	SE, S	1.7	1.5	-------		Cu.	-------	
31	61.14	27.1	36.6	21.1	72.2	S quad.	1.7	1.7	-------		Cu.	-------	
Mean	760.64	27.2	35.1	21.4	76.5		1.3	2.7				-------	
Total												3.8	

Meteorological data for first and second class stations—Continued.

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 9.7 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.90	26.7	35	20.4	74	SSE	3	6	Ci.	Cu., S.-Cu.	-------	☊ a.
2	60.76	26.7	33.4	21.9	73.8	E quad.	2.8	6.2	Ci.	S.-Cu., Cu.	-------	☊ a. ☋° p.
3	61.18	27	33.2	20.6	71.7	N quad.	3.2	5.8	Ci.	S.-Cu.	-------	☋° ☊ a.
4	60.76	27.6	33.9	22.6	71	E quad.	3.2	9.2	Ci.-S.	S.-Cu.	-------	☊° a.
5	60.09	27	33.9	22.8	69	SE, WNW	3.2	7.5	Ci.	S.-Cu.	-------	☊° a.
6	60.46	26.3	33.7	20.3	76	SSE, N	2.5	3.5	Ci.	S.-Cu.	-------	☊ a.
7	60.89	26.4	32.6	21.6	79	SSE, N	2.3	3.5	Ci.	S.-Cu. NNE	-------	☊ a.
8	60.96	27.4	35	21.9	72.7	SE quad.	2.7	3.5	Ci.	S.-Cu.	-------	☊ a.
9	61.38	27.9	33.7	23.1	73.8	SE, NW	3.2	5.5	Ci.	S.-Cu., Cu.	0.3	☊ a.
10	60.65	27.9	33.6	24.6	76.5	SE quad.	2.5	5.2	Ci.	Cu.	-------	●° a.
11	59.30	26.5	34.1	20.7	72.5	Variable	2.8	6.8	Ci.	Fr.-Cu. NNW	-------	☊° a.
12	58.09	26.6	32.9	22.4	74.7	Variable	2.7	8.3	Ci., Ci.-S.	S.-Cu., Cu.	-------	☊ a.
13	58.64	26.4	32.6	20.9	76	S, N	2.2	9.8	Ci.-S.	S.-Cu., Cu.	-------	☊ ∞° ≡° a.
14	59.47	26.8	32.8	22.2	76.2	N quad.	2.2	8.5	Ci.-S.	S.-Cu., Cu.	-------	☊ a. ○° ☇ p.
15	60.07	27.8	33.1	22	73.7	NE quad.	2.7	7.2	Ci.-S.	S.-Cu.	-------	☊ a.
16	60.32	27.5	32.1	23.1	77.5	NNE	3.3	7.3	Ci.-S., Ci.	S.-Cu. NNE	-------	☊° a.
17	61.04	27.4	31.5	25.7	74	NNE	4.7	9.8	Ci.-S.	S.-Cu., Cu. NNE	-------	
18	61.28	26.9	31	24.6	77	N	3	10	Ci.-S.	S.-Cu.	-------	
19	61.52	27.5	33.6	23.6	67.2	SSE, ESE	2.8	5	Ci.	S.-Cu.	-------	
20	61.30	27	33.8	22.6	71	SE, W	2.8	4.3	Ci.	S.-Cu.	-------	☊° a.
21	62.10	27.6	33.2	23.1	72.5	NNE	2.8	7.2	Ci.	S.-Cu.	-------	☊° a.
22	61.95	28	35.6	23.4	64.7	SE quad.	3	1.8	Ci.	S.-Cu.	-------	☊° a.
23	61.13	28.1	35.4	21.8	64.2	SSE, W	3.3	2	Ci.	S.-Cu.	-------	☊° a.
24	61.59	27.1	32.8	22.1	73.2	NE quad.	3.2	2	Ci.-S.	S.-Cu.	-------	☊ a.
25	61.65	28.8	35.9	23.4	70.3	SE, WNW	3.3	4.3	Ci.	S.-Cu.	-------	☊° a.
26	61.13	27.2	35.1	22.7	66.5	S, W	3.2	2.8	Ci.	S.-Cu.	-------	☊° a. ☇ᶜ a. p.
27	61.41	27.7	34.9	22.6	64	SE quad.	3.8	2.5	Ci.	S.-Cu.	-------	☊° ☇° a.
28	60.98	27.3	35.3	21.9	68.5	SE quad.	2.5	1.8	Ci.	S.-Cu.	-------	☊° a.
29	61.28	27.9	35.4	22.1	67.2	SE	2.7	1.5	Ci.	S.-Cu.	-------	☊° a.
30	61.44	27.9	35.1	22	71.7	SE quad.	2.8	2	Ci.	S.-Cu., Cu.	-------	☊° a.
31	61.15	28	35.1	23.7	65	SE quad.	3.5	2.3	Ci.	S.-Cu. NNE	-------	☊° a.
Mean	760.77	27.3	33.8	22.5	71.8	-------	3	5.3	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	.3	

BAGUIO.[a]

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1,512.5 meters; gravity correction not applied, —1.65 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	637.43	18.2	25.5	13.2	59.7	E, W	1.8	1.4	Ci.	Cu. ESE	-------	∞ a. p.
2	38.22	18.2	26.2	14.3	67.2	Variable	1.5	2	Ci.	Cu.	-------	
3	38.71	18.9	25.4	14.4	58.8	SE quad.	1	4.1	Ci.	S.-Cu. SE	-------	∞ a. p.
4	38.31	17.4	22.6	14.6	80.8	W, S	1.3	9.1	A.-Cu.	S.-Cu. ESE	-------	d° a. ∞ p.
5	37.68	18.8	26.3	14.5	55.3	E quad.	2	2.4	Ci.	S.-Cu. SE	-------	
6	38.12	18.9	26.1	14.2	71.3	E	1.7	2.3	Ci.	S.-Cu. SE	-------	≡° p.
7	38.31	19.3	25.8	14.7	69.5	E quad.	2.2	3.1	Ci.	S.-Cu. SE	-------	☊° a.
8	38.84	19.5	25.8	16.7	75	Variable	1.3	5.4	Ci.	S.-Cu. SE	-------	
9	39.03	18.5	24.3	15.6	86.7	Variable	1	7.6	A.-Cu.	S.-Cu. WSW	-------	☊ a. ≡° a. p.
10	38.38	18.6	25.4	15	84.2	E, W	1.3	6.9	Ci.	S.-Cu. ESE	-------	☊ ≡ a.
11	36.88	17.6	23.4	13.8	80.2	E quad.	1.7	4.6	Ci.	Cu.	-------	☊² ≡ a.
12	36.01	17.6	24.5	13.5	79.2	Variable	1.5	4.6	Ci.	S.-Cu. SSE	-------	☊ a. ∞ p.
13	36.41	19	26.2	14.5	67.3	E, WSW	1.2	4.9	Ci. NE	Cu.	-------	∞° a. p.
14	37.35	19.1	25.8	15.5	73.7	W quad.	1.5	7.4	Ci.	Cu.	-------	☊° a. ∞ a. p.
15	37.78	18.2	25.4	15	83.7	W quad.	1.3	7	Ci.	Cu. WNW, ENE	-------	☊° a. ≡° p. ∞ a. p.
16	37.75	17.5	23.4	14.8	86.7	W quad.	1	9.3	Ci.	S.-Cu. NE	1	≡° a. p. ∞ ●° p.
17	38.07	18.1	23.8	14.5	80.5	W quad.	1	9.3	A.-Cu.	Cu., Cu.-N. NE	-------	∞° a. ≡° a. p.
18	38.38	16.8	21.5	14.4	89.5	NE, W	1.3	8.4	A.-Cu., Ci.	S.-Cu. SW, SE	-------	☊ a. d° p. ≡° a. p.
19	38.62	17.6	23.9	13.5	79	E	1.3	5.9	Ci.	s.-cu., Cu. WSW, W	-------	
20	38.47	18.3	25.6	13.9	77	E, W	1.7	5.9	Ci.	S.-Cu. WSW	-------	
21	39.19	17.4	23.4	14.2	85.7	E, W	1.2	8	Ci.-S.	s.-Cu. EbyN, WNW	-------	☊° a. ≡° a. p.
22	39.38	18.6	26	13.8	66.3	E quad.	2	1.6	Ci.	Cu.	-------	∞ p.
23	38.63	18.4	27.2	12.8	56.5	SE, W	2.5	1.9	Ci.	Cu.	-------	∞ a.
24	38.91	17.8	26.3	13.5	77.7	W quad.	1.2	4.3	Ci.	Cu. WSW	-------	☊ a. ≡° ∞° a. p.
25	39.26	19.2	25.8	14.6	67.8	SE quad.	1.5	3.9	-------	S.-Cu. W	-------	
26	38.60	18.4	27.5	13.5	65.3	E quad.	1.7	1.9	Ci.	Cu.	-------	☊ a.
27	38.58	18.2	25.9	12.2	60.2	E quad.	2	.7	Ci.	Cu.	-------	∞ a. p.
28	38.57	18.7	27	13.9	59.3	E quad.	2.2	.7	-------	Cu.	-------	
29	38.86	18.8	26.2	14.5	71.7	W quad.	1.8	4	-------	S.-cf. NE, SE	-------	
30	39.05	19.2	26.3	14.4	59.2	E, SE	1.5	1.9	-------	Cu. SE	-------	
31	38.70	18.3	25	14.1	64.7	SE	1.3	4	-------	S.-Cu. SSW	-------	
Mean	638.27	18.4	25.3	14.3	72.2	-------	1.5	4.7	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	1	

[a] The barometric readings of this station are not reduced to sea level.

Meteorological data for first and second class stations—Continued.

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 14.7 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.19	26.2	30.4	21.8	82.2	Variable	1.2	0.8	Ci.	Cu.	-------	Ω a.
2	61.15	26.1	31.2	20.8	83.5	NW quad.	1	1	-------	Fr.-Cu. WNW	-------	Ω° a.
3	61.57	26.2	31.2	22.2	81	Variable	1.2	1	Ci.	Cu., S.-Cu.	-------	Ω° a.
4	61.06	26.3	31	22.3	84.2	Variable	.8	3.5	A.-Cu. E	Cu. SSE	-------	Ω° a.
5	60.31	26.2	31.2	22.4	83.7	Variable	.7	2.3	A.-Cu. ESE	Fr.-Cu. E	-------	Ω² a.
6	60.66	26.4	32.8	22.2	84.3	N quad.	.7	1.2	Ci., A.-Cu.	Cu.	-------	Ω a.
7	60.97	26.3	32.3	22.7	89.5	N quad.	1	3.2	A.-Cu. ESE	Fr.-Cu. NNW	-------	Ω a.
8	61.21	27.6	33.6	24.3	85	SE quad.	1	.7	A.-Cu. ESE	Cu.	-------	Ω° a.
9	61.62	27.2	32.2	22.7	86.2	NW	.7	2.3	-------	Cu. SE, WNW	-------	Ω a.
10	60.77	27.3	31.3	24.3	88.2	SW quad.	.8	2.2	-------	S.-Cu. S	-------	Ω² a.
11	59.44	26.7	31.3	23	88.2	NW	.5	3.5	-------	Cu. WSW, W	-------	Ω² a.
12	58.34	26.7	31.4	22.9	85.3	Variable	.7	4.7	Ci.	Cu. S	-------	Ω° a.
13	58.91	26.8	33.5	22.2	75.7	NW quad.	.7	3.3	Ci. NNW	Cu. SSW	-------	
14	59.48	26.8	33.3	21.7	72.3	Variable	.7	3	A.-Cu. SW	Cu. SSW	-------	
15	60.21	27.1	32.5	22.5	76.7	Variable	.7	2.8	Ci.	Cu. W	-------	
16	60.44	26.2	32.6	21.5	81.3	N quad.	1.5	1.7	Ci.	Cu.	-------	
17	60.96	25.6	30.6	22.5	85	NNE	2.8	2	Ci.-S. SW	Cu.	-------	☔° p.
18	61.40	25.7	30.5	21.4	77	N quad.	1.8	4.2	Ci. SSW	Cu.	-------	
19	61.64	27.6	32	24.3	63.7	NW	1.7	2.8	A.-Cu. SSW	Cu.	-------	
20	61.33	27.1	32	23.2	77	N quad.	1.3	2.7	Ci.	S.-Cu.	-------	
21	62.26	26.7	32.5	22.3	80.7	N quad.	1	1.8	A.-Cu.	S.-Cu.	-------	
22	62.22	27.2	32.4	22.9	77.5	NW quad.	1	2.2	A.-Cu.	S.-Cu.	-------	
23	61.21	28	35.5	24.1	68.2	NW quad.	1.5	.7	-------	S.-Cu.	-------	
24	61.80	26.9	33.1	22.8	81.3	NNW	1.2	1.7	A.-Cu. WNW	Cu. NNE	-------	
25	61.80	26.9	32	22.2	80.2	Variable	.8	2.5	A.-Cu. WSW	Cu. NNW	-------	
26	61.30	27.8	31.9	24.5	75.8	Variable	1.2	2.5	A.-Cu.	Cu.	-------	
27	61.66	26.6	32.2	22.8	72.8	NW quad.	.7	4.5	A.-Cu.	Cu. NNE, WNW	-------	
28	61.12	27.2	32.3	22.5	68	Variable	1.2	.8	Ci.-S.	Cu.	-------	
29	61.50	27.3	33.6	22.4	71.7	NNE	1	1	Ci.-S.	Cu.	-------	
30	61.53	28	33.1	24.2	70.3	SE, WNW	1.3	2.5	A.-Cu.	Fr.-Cu. WNW	-------	
31	61.19	27.5	33.2	23.2	65.7	ESE	.8	.8	-------	Cu. NE	-------	
Mean	760.94	26.8	32.2	22.7	78.8	-------	1.1	2.3	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	761.16	25.7	35.8	17	69.3	SW, SE	0.3	0.7	-------	Cu. SE	-------	Ω² a.
2	61.87	26.2	36.2	18.4	71.5	SE, E	.5	.3	-------	Cu.	-------	Ω² ≡° a.
3	62.35	25.7	36.7	17	71.2	S quad.	1	4.3	Ci.-S.	Cu. S	-------	Ω² a.
4	61.89	25.6	33.2	20.5	77.2	SW, SE	.3	4.5	Ci.-S., A.-Cu.	Cu. S	-------	Ω² a.
5	60.98	26.1	36.6	18.5	67.7	SE	.7	1.2	Ci.	S.-Cu.	-------	Ω² a.
6	60.99	27.1	38.2	19.6	67.2	SE	.7	1.3	-------	S.-Cu. SW	-------	Ω° a.
7	61.70	26.9	37.2	20	70.8	SE, S	.3	.8	-------	Cu. N	-------	Ω² a.
8	61.73	27.2	37.7	18.6	67.7	Variable	.7	1	Ci.-S., A.-Cu.	S.	-------	Ω² a.
9	61.57	28.1	37.1	21.7	72.3	N	.3	4.2	-------	Cu., S.-Cu.	-------	
10	61.01	28.8	37.6	23.3	62.5	SE	.5	3.7	-------	S.-Cu. S	-------	Ω² a.
11	59.28	26.8	36	19.5	66.2	N quad.	.8	.5	-------	Fr.-Cu., S.-Cu.	-------	Ω² a.
12	58.15	26.5	34.7	19.2	73.8	NW quad.	1.5	4.3	Ci.	Variable NW, N	-------	Ω° a. ∞² p.
13	58.72	27.8	36.2	22.2	71.7	NW	.8	6.8	Ci.-S.	S.-Cu. NW	-------	
14	60.01	26.9	35.6	22	76.2	NW quad.	1.3	6.5	Ci.	Cu. NE, W	-------	∞ p.
15	60.13	27.7	37.5	21.5	75.7	N, S	1	4.2	Ci.	Fr.-Cu. S, E	4.3	p p.
16	60.64	27.2	35.8	23.1	79	NE	.7	6.7	Ci.-Cu.	Cu.-N. N	-------	d a.
17	61.80	26.6	32	23.2	76.8	NW quad.	2	6.3	Ci. NE	s.-cu., cu. NE, N	1.3	
18	63.60	23.8	29.5	20.8	78.2	NW, N	2	9	-------	Cu.-N. N, NE	-------	d° p. a.
19	63.92	24.3	31.5	20.8	76.7	N	1	7.5	-------	S.-Cu. NE, NNW	-------	Ω° a.
20	62.18	26.5	36	19.8	73.7	SE, S	.3	2.7	Ci.	Fr.-Cu. SW	-------	Ω² a.
21	62.77	27.4	37	20.6	70	SE	.8	3	Ci., A.-Cu.	Cu. S	-------	Ω° a.
22	63.23	27.6	36.3	21.5	67.7	S	.7	1.8	-------	Fr.-Cu., S.-Cu. S	-------	Ω° a.
23	62.24	26	35.6	17.5	66.3	S	1	.3	-------	Fr.-Cu.	-------	Ω² a.
24	62.12	26.3	36.5	17.8	66.7	Variable	.8	3.5	-------	S.-Cu. E	-------	Ω° a.
25	62.60	27.6	37.7	20.6	68.7	Variable	1	3.5	-------	S.-Cu. S	-------	Ω² a.
26	61.96	27.4	36.5	20.2	60	SE, S	1	1.5	-------	Cu., S.-Cu.	-------	Ω° a.
27	62.08	26.8	37.1	17.5	60.3	SE quad.	1	.2	Ci.	-------	-------	Ω² a.
28	61.89	27.6	37	19.5	63.8	SE quad.	.8	0	-------	-------	-------	Ω° a.
29	62.31	27.8	38.7	19.4	63	Variable	.5	.7	-------	Fr.-Cu. S	-------	Ω² a.
30	62.58	27.3	37.6	19.3	63.7	SE	.8	3	Ci.-S.	Cu. E	-------	Ω² a.
31	62.70	26.1	37	17.9	63	N quad.	.7	1.3	-------	Cu. SE	-------	Ω² a.
Mean	761.62	26.8	36.1	20	69.6	-------	.8	3.1	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	5.6	

Meteorological data for first and second class stations—Continued.

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.82	24.6	31	19.6	78.5	E, SW	1.2	0				☊ a.
2	61.58	25.2	31	20.7	78.8	S, E	1.3	0				☊ a. ∞ p.
3	62.02	25.1	30.5	18.6	77.7	SE quad.	1.2	0				∞ a. p.
4	61.50	25.3	30.9	22.1	78.3	S	1.2	1.3	A.-Cu. SW	S.-Cu. SE		
5	60.64	24.8	31	21.4	78.3	E, S	1.3	.2	Ci.			∞ a.
6	60.82	25.2	31	21.1	80.7	S, N	1.3	0				∞ a. p.
7	61.20	25.7	31.1	20.1	78.8	N, NE	1	1.5	A.-Cu. W	S.-Cu.		☊ a. ∞ a. p.
8	61.42	25.3	32	20.3	79.2	NE	1.2	1.5		S.-Cu. SW		☊ ∞ a.
9	61.57	26.2	31	22.6	81.7	NE	1	.3		S.-Cu., Cu.-N.		☊ a. ∞ a. p.
10	60.62	25.9	32.7	21.1	79.3	Variable	1	0				☊ a. ∞ a. p.
11	59.09	25.7	30.6	21.2	77	N, S	.5	0				∞ a. p.
12	58.15	25.5	30.2	21.2	82.2	NE	.3	2.8	A.-Cu. WSW	Cu.-N. W		☊ a. ∞ a. p.
13	59.02	26.5	31	23.6	78.8	NE	1	3.8		S.-Cu. SW,W		∞ a. p.
14	60.15	25.1	28	22.3	84.3	NE	1.3	4.5	A.-Cu. SW	Cu.-N. NE	14.3	◠ ● a.
15	60.04	26.2	32.5	19.7	79.8	NE quad.	.8	.7		Cu.-N., S.-Cu.		☊ ≡° a. ∞ a. p.
16	60.82	26.4	30.9	21.2	79.7	N	1	2.5	A.-Cu. S	Cu.-N., S.-Cu.		☊ ∞ a. ∞ ≲ p.
17	61.91	26.2	29.9	23.5	73.7	NE	2	8.2		Cu.-N. NE		
18	64.18	23.4	25	21.6	70.8	NE	3.5	10		Cu.-N. NE	1.3	●° p.
19	63.99	22.6	25.7	20.4	76.5	E	2	9.5	A.-Cu. S	S.-Cu. E		●° a.
20	61.85	24.4	30	19.1	78.2	E quad.	1	.5	A.-Cu. SW	S.-Cu.		☊ ≡° a.
21	62.50	26.2	33	21	79.5	NE, SW	1	.3		S.-Cu., Cu.-N.		∞ a. p.
22	62.87	25.7	31.6	21	77	NE, E	1.5	0				☊ a.
23	61.83	25.3	32.7	19.2	75	SE, S	1.3	0				☊ a. ∞ p.
24	61.96	25.7	32	21.2	75.8	S, E	1.2	1.2	A.-Cu. W	S.-Cu.		∞ a. p.
25	62.38	25.6	31	20.1	76.7	E quad.	.8	1.7	A.-Cu.	S.-Cu.		☊ a. ∞ p.
26	61.67	26.5	33.2	21.1	70.8	E, S	1	0				☊ a. ∞ a. p.
27	61.92	25.2	33.5	20.6	70.5	S	1.3	0				∞ a. p.
28	61.30	25.5	32.1	21.6	76.3	Variable	1.5	0				∞ a. p.
29	61.75	26.1	33	21.5	76.3	SE, E	1.2	0				∞ a. p.
30	62.32	26.1	31.6	22	74.5	S, NE	1.2	0				∞ a. p.
31	62.82	25.5	31	21.2	76	E quad.	1.5	0				☊ a.
Mean	761.44	25.4	31	21	77.4		1.2	1.6				
Total											15.6	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	22.6	97	65	10	3	------	d a.
2	31.3	20.6	96	69	2	3	1.8	☽° a.
3	29.8	22.6	97	68	10	6	------	●° a.
4	33.8	22.3	87	69	10	9	------	☽° a.
5	------	21.4	97	68	1	9	------	☽° a.
6	31.8	21.6	96	69	10	9	------	☽° a. p° p.
7	------	22	91	57	9	3	------	☽° a.
8	------	23.1	96	68	2	5	------	☽° a.
9	------	22	96	62	1	3	------	☽° a.
10	------	20.1	95	62	1	9	------	☽° a.
11	------	20.1	94	72	0	4	------	☽° a.
12	------	20.1	95	74	0	4	------	☽° a.
13	------	22.1	93	81	1	9	------	☽ a.
14	------	22.6	96	78	10	9	------	☽° a.
15	------	20.7	96	65	10	10	------	☽ a.
16	------	19.6	98	61	0	4	------	☽ a.
17	------	19.6	95	70	1	9	------	
18	------	19.6	95	59	1	3	------	☽ a.
19	33.3	19.8	91	71	1	3	------	☽° a.
20	32.8	20.1	93	68	0	8	------	☽° a.
21	34.3	19.7	92	50	2	7	------	☽° a.
22	33.3	21.1	88	62	10	5	------	
23	34.3	20.8	95	74	1	5	------	☽° a.
24	29.8	20.6	91	68	3	4	------	☽° a.
25	------	21.1	91	65	9	4	------	☽° a.
26	34.3	20.3	95	66	0	5	------	☽ a.
27	32.3	21.6	96	67	0	3	------	☽° a.
28	32.3	20.1	96	68	0	3	------	☽° a.
29	32.3	20.1	94	71	8	3	------	
30	34.8	22.3	96	48	0	3	------	☽° a.
31	29.3	21.5	96	70	0	3	------	☽° a.
Mean	32.5	21	94.3	66.6	3.6	5.4	------	
Total	------	------	------	------	------	------	1.8	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.9	22.5	90	71	10	8	1.8	●° a.
2	30	22	84	74	2	9	------	
3	30.5	23.5	86	71	5	7	------	
4	31.5	23.8	84	73	10	6	------	
5	29.1	22.5	89	80	9	7	------	
6	32.3	23	83	64	10	2	------	
7	32	22.9	87	62	9	2	------	
8	30.5	24.5	90	76	7	4	------	
9	30.8	22.9	87	66	9	4	------	
10	31.6	22.4	88	56	2	6	------	
11	29.6	21.9	85	75	1	3	------	
12	29.5	22.5	86	70	1	1	------	
13	28.5	23.6	86	73	8	10	------	d p.
14	28.7	23.4	89	83	10	10	.5	●° p.
15	29.1	23	87	77	10	9	------	d a.
16	29.5	21.9	82	70	5	5	------	
17	31.8	20.4	87	75	6	9	------	
18	30.1	20.9	86	61	2	3	------	
19	32.5	22.1	81	72	6	5	------	
20	31.4	20.5	82	60	5	6	------	
21	31.7	21.5	74	67	3	7	------	
22	30.8	23	82	69	10	4	------	d a.
23	32.2	21.9	72	71	2	3	------	
24	30.1	23	86	79	7	9	------	
25	32	22.5	84	67	9	5	------	
26	32	22.9	83	55	6	1	------	
27	30.2	21.5	71	68	2	2	------	
28	31.5	22	81	70	4	1	------	
29	31.5	22.3	85	70	8	1	------	
30	32.9	23	90	52	2	1	------	
31	30.2	22.9	85	73	6	2	------	
Mean	30.8	22.5	84.6	69.4	6	4.9	------	
Total	------	------	------	------	------	------	2.3	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	18.8	96	62	6	6	------	
2	30.3	20.4	95	81	5	8	------	
3	30.9	20.6	96	79	8	7	------	
4	33.2	20.9	96	59	6	5	------	
5	31.7	20.5	95	62	7	6	------	
6	31.2	21.1	97	80	5	8	------	
7	32.1	21.6	96	67	6	7	------	
8	32.7	23.4	96	51	7	6	14.5	● p.
9	33.3	17.6	90	54	7	5	------	
10	32.2	20.5	95	63	6	7	21.6	● p.
11	32.3	20.6	95	62	5	6	------	
12	31.2	21.9	95	66	6	7	------	
13	32.2	22.9	96	72	5	8	------	
14	32.7	21.3	97	52	6	6	------	
15	31.8	18.1	92	62	5	7	------	
16	32.3	17.4	94	66	6	7	------	
17	34.2	20.6	96	53	5	5	------	
18	31.2	21	89	77	5	9	------	
19	33.1	21	87	50	6	7	------	
20	32.7	19	93	78	6	5	------	
21	32.2	20	95	62	6	7	------	
22	32.2	19.4	96	59	7	7	------	
23	32.7	19.4	95	59	6	7	------	
24	32.1	19.8	91	60	6	5	------	
25	32.3	21.5	96	54	6	5	------	
26	33.7	21.8	97	55	7	6	------	
27	34.2	21.8	96	54	6	5	------	
28	33.7	22.3	97	51	7	6	------	
29	32.2	21.2	96	68	6	8	2.5	●° p.
30	33.6	21.5	96	52	6	9	------	
31	33.6	21	96	56	6	9	------	
Mean	32.4	20.6	94.7	62.1	6	6.6	------	
Total	------	------	------	------	------	------	38.6	

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.9	20.8	91	54	5	7	------	☽ a. ♊ ☾ p.
2	33	22	91	70	7	8	.8	☽ a. ●° p.
3	33.8	22	91	58	5	6	.5	♁ ○ a. d p.
4	33.5	21.4	83	61	6	5	------	♊ ☾ p.
5	32.5	20.8	91	62	6	9	1.3	☽ a. ●° p.
6	33	22.3	93	76	5	7	3.5	● ☾ ☇ p.
7	34	22.9	95	59	6	7	.3	●° a. d p.
8	34.2	24	93	57	8	4	------	
9	34.5	22.5	92	53	7	4	------	○ ♁ a.
10	34.2	21	91	56	6	5	------	☽° a.
11	34.3	23	90	59	6	6	------	☇ p.
12	33.5	24	96	64	7	7	1.3	●° ☐ ☇ d° p.
13	34	23	93	60	9	7	2.8	☐ ☇ ●° p.
14	34.2	23.2	96	50	9	6	------	
15	33.4	20	91	51	6	7	------	♁ ○ a.
16	33.9	20	91	52	5	7	------	☽° a. ☇ p.
17	34.4	20.9	91	55	5	4	------	☽ a. ☇ p.
18	33	20	87	61	4	7	------	
19	32.8	21.8	90	59	6	5	------	☇ p.
20	34.2	21	89	51	8	6	------	♁ ○ a. ☇ p.
21	34	23	88	62	7	7	------	
22	32	22.4	94	60	6	8	------	☇ p.
23	33	20.9	91	61	3	5	------	☇ p.
24	34	22	87	56	7	5	------	
25	32	21	86	59	6	7	------	♁ ○ ☇ p.
26	33.5	21	95	59	4	5	------	☽ a.
27	34.6	21.4	95	59	3	5	------	♁ ○ a.
28	34.4	22.5	91	59	2	4	------	
29	33.5	22	87	61	5	8	.3	d° p.
30	32.5	23	93	60	6	6	------	
31	34.7	24	93	56	8	6	------	☇ p.
Mean	33.6	21.9	91.1	58.7	5.9	6.1	------	
Total	------	------	------	------	------	------	10.8	

Meteorological data for third and fourth class stations—Continued.

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.4	19.9	85	66	7	9	------	☊° a.
2	31.1	21.5	85	62	9	4	------	☊ a.
3	31.2	21.4	86	64	2	2	------	☊ a.
4	31.2	21	84	62	3	9	------	☊ a.
5	31.2	21.4	81	65	6	9	3.3	☊ a. ●° p.
6	30.5	23.6	93	66	8	10	------	☊ a.
7	31	21.2	91	74	4	5	------	☊ a.
8	32.8	21	94	48	3	3	------	☊° a.
9	32.8	20	80	48	1	2	------	☊ a.
10	30.9	20	85	62	2	3	------	☊ a.
11	30.6	22.8	83	63	1	4	------	☊ a.
12	30.5	22.8	88	78	2	10	------	☊ a.
13	30.7	22	89	68	1	2	------	☊ a. ⊤ p.
14	32.3	22	81	59	8	7	------	☊ a.
15	30.9	19.4	69	54	3	4	------	☊ a.
16	30.4	19	76	61	3	4	------	☊ a. ↙ p.
17	31.6	20.8	77	50	2	2	------	☊ a.
18	31.2	19.5	76	59	1	3	------	☊ a. ↘ p.
19	31.8	20.4	83	55	6	2	------	☊ a.
20	31	20.5	75	57	2	3	------	☊ a. ↙ p.
21	31.4	19.2	85	62	3	4	------	☊ a. ↙ p.
22	32.4	21.5	94	56	4	10	------	☊ a.
23	33.1	20.2	81	55	1	3	------	
24	31.6	20.5	87	60	5	4	------	☊° a.
25	32.6	20.8	81	56	3	4	------	☊² a. ↙ p.
26	32.4	19.4	81	52	1	3	------	☊ a.
27	32.9	22	84	44	1	4	------	☊ a.
28	32.8	21.4	82	56	1	6	------	☊ a.
29	33.1	21	84	61	1	10	------	☊ a.
30	34.1	22.9	83	49	0	3	------	☊ a. ↙ p.
31	33.2	24	79	58	1	6	------	☊ a.
Mean	31.7	21.1	83.3	59	3.1	5	------	
Total	------	------	------	------	------	------	3.3	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.7	19.9	95	74	7	10	1	☊ a. ●° p.
2	28.6	21.8	93	71	9	8	1.3	d° a. p° ☋² p.
3	29.6	22.3	90	69	4	5	.3	☊ a. p° ●° p.
4	28.1	21.9	91	82	2	8	------	☊ a. p d ☋ p.
5	28.1	21.1	93	72	9	8	6.1	☊ d p a. ● p.
6	26.4	22.8	94	83	10	10	17.8	● d° a. p.
7	29.6	22.7	96	84	8	9	13.4	●° a. p. d° ◠² p.
8	30.3	23.4	96	64	1	6	------	● a.
9	29	20.4	91	56	1	7	------	☊ a.
10	28.5	20.7	93	64	7	9	.8	☊ a. ●° p.
11	30	22.1	91	67	7	4	4.1	☊ a. ● p.
12	30.6	22.6	90	76	7	5	10.7	☊ a. ● ⊤ p.
13	30.4	21.9	96	70	3	5	------	☊ a. p° ◠ p.
14	30.3	23.4	92	67	9	8	------	☊ a.
15	30	20.6	92	62	7	4	------	☊ a.
16	29.5	19.9	89	59	5	4	------	☊ a.
17	29.1	20.9	92	50	1	3	------	☊ a.
18	29	19.3	91	56	8	8	------	☊ a.
19	29	19.3	92	60	4	3	------	☊° a. ⊕ p.
20	28	17.6	93	82	5	8	5.8	☊² p◡ a. ● p.
21	30	21.1	93	69	2	7	.3	☊ a. p◡ a. p.
22	30.1	22.1	92	67	8	7	.3	☊ a. p◡ p.
23	30.5	23.1	91	59	8	5	------	d a. p.
24	31.1	21.7	88	65	4	6	------	☊ a. p° p.
25	30.5	22.2	92	58	7	7	------	☊ a.
26	28.7	19.4	92	73	6	7	.3	☊ ●° a.
27	30.3	22.4	85	80	10	8	6.1	d° ●° a. ● p.
28	31.3	22.4	87	64	0	6	------	☊ a. p° p.
29	28.7	22.1	90	73	1	9	3.3	☊ a. ●° a. p.
30	31	22.9	90	63	7	2	1.1	☊ a. ● p.
31	30.4	23	92	62	6	3	------	●° d° a.
Mean	29.5	21.5	91.7	67.8	5.6	6.4	------	
Total	------	------	------	------	------	------	72.7	

DUMAGUETE.

[ϕ=9° 18′ N; λ=123° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.2	24.3	77	66	10	10	------	d a. p.
2	29.7	23.5	77	68	10	10	------	d a.
3	30.6	24.5	76	66	10	10	------	☊° a. ◠° p.
4	30.3	24.2	78	62	10	10	------	
5	30.4	21.3	71	66	8	10	------	d p.
6	29.8	23.4	77	74	10	10	2.5	☋ ●° a.
7	29.8	23.3	91	75	10	3	1.3	●° a.
8	29.9	24.3	91	74	10	6	------	●° d a.
9	29.2	22.2	74	71	5	10	------	
10	29.9	22	72	69	10	10	------	
11	29.2	24	81	71	10	10	------	
12	29.9	22.6	83	74	2	7	------	☊ a. ↙ p.
13	28.9	24.7	90	77	10	6	------	↙° p.
14	30.6	24.3	90	77	10	10	------	☊° ◯ a.
15	29	23.3	77	70	10	10	------	◯ a.
16	30	24.6	75	65	10	10	------	
17	28.8	23.7	80	71	10	10	------	
18	30.5	23.2	70	64	6	7	------	
19	28.5	21.8	73	68	10	10	------	◯ p.
20	30.1	21.5	64	64	5	7	------	◯° p.
21	29.5	23.1	77	71	10	9	------	◠° d° p.
22	28.6	25	82	72	10	10	------	◯ p.
23	29.1	25.3	81	77	10	10	------	
24	30	23.6	78	70	10	10	------	◯ p.
25	29	24.3	71	74	10	7	------	
26	29.7	22	88	71	4	3	------	☊ a.
27	30.4	23.1	71	74	4	5	------	
28	29.7	25.3	76	72	10	3	------	
29	29.5	24.1	72	70	5	4	------	
30	31	25.3	80	72	10	4	------	
31	30.8	24.2	86	71	10	8	------	◠² d° a.
Mean	29.7	23.6	78.4	70.5	8.7	8	------	
Total	------	------	------	------	------	------	3.8	

YAP (WESTERN CAROLINES).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.4	------	75	70	10	8	1	●° a. d° p.
2	29.2	------	84	72	10	9	.5	p a. ●° p.
3	29.4	------	86	73	10	10	2	●° a. p.
4	29.9	------	85	67	10	6	1	●° a.
5	29.7	------	83	71	10	5	.8	●° a.
6	29.5	------	85	73	10	8	------	●° a.
7	29.4	------	79	70	5	7	------	
8	30.5	------	75	59	8	4	------	
9	30.5	------	84	86	10	10	.3	☋ a. d° p.
10	29.7	------	76	61	9	6	------	
11	29.9	------	77	59	10	7	------	⊏↙ a.
12	30.3	------	57	46	9	8	------	
13	30.5	------	78	63	9	10	2.8	☋ ◠° a. ●° p.
14	30.5	------	64	54	8	10	.5	
15	30.8	------	84	44	10	5	------	●° a. p p.
16	30.6	------	70	62	10	10	------	p a.
17	30.2	------	76	61	10	4	------	
18	30.5	------	68	60	9	6	------	
19	30.5	------	83	63	10	10	.3	● p.
20	29.4	------	77	64	10	10	------	p a.
21	30.1	------	75	62	8	8	------	
22	30.9	------	75	64	10	10	1.3	
23	29.5	------	80	73	8	9	------	●° a. d a. p.
24	30	------	93	78	10	10	5.1	p° a. ◡° p.
25	30.2	------	95	69	10	10	.6	●° p° a.
26	29.8	------	91	68	9	10	1	●° a. p.
27	30.1	------	84	65	10	9	.8	p° a. ●° p
28	30.5	------	77	71	8	10	.8	p° a.
29	30.8	------	79	63	6	6	------	●° a.
30	30.5	------	76	54	6	1	2	
31	30	------	84	91	10	10	5.8	●° a. ● p.
Mean	30.1	------	79.2	65.7	9.1	7.9	------	
Total	------	------	------	------	------	------	26.6	

Meteorological data for third and fourth class stations—Continued.

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.4	------	94	79	6	9	13.3	● a. p. d² p.
2	29.3	22.4	88	75	9	5	.3	● a. d° a. p.
3	30.4	23.5	91	77	6	9	1.3	d² a. d° ● p.
4	30	23.1	91	68	3	5	4.1	p° a.
5	28.7	21.6	96	87	9	8	11.6	● d a. d° ● p.
6	30.1	22.7	89	93	9	10	24.4	● a. ●° p.
7	29.3	22.5	94	87	9	8	5.3	d ● a. ● ◠° d° p.
8	29.6	24.6	89	70	4	4	------	d° a. ∞° p.
9	30.2	20.9	95	70	4	3	3.6	☊ d° a.
10	29.4	22.2	95	78	8	8	1.4	d a. ● a. p.
11	30.4	21.5	96	72	4	5	------	☊ a. d° ◠ p.
12	30.2	23.2	94	74	6	2	.5	
13	31.1	23.7	95	90	9	10	4	●° d° a. ● d° p.
14	29.9	22.6	96	70	7	8	------	☊ a.
15	29.7	20.7	92	63	6	6	------	☊° a.
16	30.6	20.4	94	71	8	8	------	☊° a. d° p.
17	30.4	20.7	93	56	4	5	------	☊° a. p.
18	29.5	20.5	89	62	6	2	------	
19	30.7	20.9	92	55	3	2	------	
20	29.3	21.5	87	76	2	7	.8	●° a.
21	29.8	23.4	89	83	8	9	3.1	●° d° a. d ● p.
22	28	23	88	93	8	10	12.5	d² a. ● a. p.
23	29.9	22.7	97	76	8	7	4.8	d² ● a. ∞°° p.
24	30.4	22.5	96	72	6	4	------	☊² p° a.
25	29.9	23.1	86	69	6	9	1.9	d° p.
26	29.5	22.4	93	72	9	3	----	● d° a. ∞°° p.
27	30.6	21.3	96	73	4	4	7.8	☊ ● a. d° p.
28	30.5	22.9	95	71	5	4	2	● a. p. d p.
29	29.9	22.3	94	75	4	9	5.4	☊° ● d a. ● d° p.
30	30.8	22.8	96	73	7	6	10.7	d a. ● p.
31	29.8	22.8	96	68	9	4	13.7	● a. ∞° p² p.
Mean	29.9	22.3	92.8	74.1	6.3	6.2	------	
Total	------	------	------	------	------	------	132.5	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.4	21.4	91	78	10	8	------	☾ ☿ p.
2	30.5	21.4	90	65	10	8	------	
3	31	22.4	91	79	10	8	------	☽ p.
4	31.5	22.3	74	88	10	10	------	
5	31.5	21.8	94	79	10	10	------	
6	31.6	22.1	86	81	10	10	------	d ◠ p.
7	31	24.3	88	83	10	8	9.9	d ◠ a. ◠² p p.
8	30.8	24.6	82	79	10	7	------	
9	30.5	21.2	90	85	10	10	------	
10	30.6	21.3	87	74	10	10	------	
11	30	21.4	91	81	10	8	------	
12	31	21.4	95	68	10	7	------	
13	31.5	21.4	93	79	10	10	------	
14	30.5	21.3	90	68	10	10	------	
15	31	------	88	78	10	10	------	
16	31	21.6	86	75	10	10	------	
17	31	20.6	91	73	10	10	------	d p.
18	31.5	22.4	79	59	10	5	------	
19	31.8	21.4	86	59	10	10	------	∞ p.
20	32	21.1	84	73	8	10	------	☾ p.
21	31.6	21	87	79	10	10	------	d a. p. ◠ p.
22	31.6	21.2	83	75	10	10	------	
23	31.4	21.7	83	79	10	8	------	☰° d a.
24	32	21.3	83	77	10	7	------	☾ p.
25	32	21.2	87	73	10	5	------	
26	32.3	21.3	94	68	10	4	------	
27	31	24.2	84	76	10	10	------	
28	32.3	22.8	87	78	10	8	------	
29	32.2	22.6	91	74	10	7	------	
30	32	22.6	90	76	10	5	------	
31	31.8	22.6	90	63	10	5	7.6	d ◠ p a.
Mean	31.3	21.9	87.6	74.9	9.9	8.3	------	
Total	------	------	------	------	------	------	17.5	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	36.8	21	82	48	5	3	------	
2	36.3	21	76	52	10	10	------	
3	34.8	21	82	49	7	8	------	
4	36.3	20.4	90	51	5	9	------	☊² a.
5	34.9	19.5	78	52	0	9	0.5	●° p.
6	34.8	22.5	87	57	10	10	------	
7	34.8	23.6	87	69	8	10	------	≲ p.
8	36.5	24.2	86	55	6	3	------	
9	35.4	23	67	50	4	0	------	
10	34.9	18.5	78	48	6	3	------	
11	34.8	20.5	74	51	9	1	------	
12	34.8	21.5	81	60	0	2	------	
13	34.8	23.5	88	59	8	10	------	⊤ ≲ p.
14	35.3	22.8	80	57	10	9	------	
15	34.7	20.7	77	62	8	10	------	◯ p.
16	34.3	20.4	77	56	----	9	------	
17	33.8	19.8	80	51	7	5	------	
18	34.7	22	57	42	0	0	------	
19	33.8	22	70	48	5	2	------	
20	34	21.5	78	44	4	8	------	
21	32.8	20.4	86	62	9	10	------	
22	37.3	23.3	73	53	3	10	------	
23	34.8	22	82	50	10	5	------	
24	34.8	22	88	52	3	9	------	☊² a. ⊕ p.
25	35.4	22	77	55	8	2	------	☊° a.
26	34.8	20	82	48	9	6	------	
27	33.2	21.1	78	64	0	9	------	
28	33.9	22	85	57	5	4	------	
29	34.5	21.5	87	58	0	2	------	
30	34.8	21.5	87	52	0	1	------	☊² a.
31	35.3	22.5	75	48	10	7	------	d° p.
Mean	34.9	21.5	79.8	53.5	5.6	6	------	
Total	------	------	------	------	------	------	.5	

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.4	24.9	87	68	10	5	------	☊ a.
2	30.7	24.6	80	59	9	8	------	☊ a.
3	31.6	24.9	87	67	9	8	------	☊ a.
4	31.3	25	88	57	9	7	------	☊ a. ⊕ p.
5	31.4	24.6	75	55	10	2	3.8	☊ a.
6	30.8	23.4	93	69	6	8	------	●° a.
7	31.1	25.6	85	74	8	7	------	☊ a. ≲ p.
8	31.8	------	95	65	8	6	------	☊ ☰° a.
9	31.4	24.1	91	60	9	7	------	☊ a.
10	31.1	23.8	84	56	7	7	------	☊ a.
11	31.3	22.4	90	60	8	7	------	☊ a.
12	32.9	22.4	95	62	8	7	------	☊² ☰° a. ≲ p.
13	32.4	23	91	66	8	8	------	☊² a.
14	31.7	26.2	90	70	9	9	------	☊ a. ⊕ p.
15	32.7	23	93	62	8	9	------	☊² a.
16	32.2	22.7	88	60	9	9	------	☊ a.
17	31.1	23.5	84	63	9	8	------	☊ a.
18	32	24.9	70	43	9	5	------	☊ a.
19	31.2	23.9	77	56	9	5	------	☊² a.
20	32.1	24.7	86	58	8	5	------	☊ a.
21	31.6	24.7	90	62	8	6	------	☊ a.
22	31.7	25.3	81	64	8	8	------	☊ a. ☿ p.
23	32.1	25.3	86	60	8	6	------	☊ a.
24	31.7	24.2	92	66	8	7	------	☊ a.
25	32.8	25.3	90	50	9	7	------	☊ a.
26	32.4	24.6	85	60	9	8	------	☊ a.
27	32	25.2	85	56	9	7	------	☊ a.
28	32.6	25.5	85	61	9	9	------	☊ a.
29	32.6	25.6	86	58	9	4	------	☊ a.
30	32.4	24.6	88	65	9	8	------	☊ a.
31	31.6	25.8	82	66	9	6	------	☊ a.
Mean	31.8	24.5	86.4	61.2	8.5	6.9	------	
Total	------	------	------	------	------	------	3.8	

Meteorological data for third and fourth class stations—Continued.

GUIUAN.

[ϕ=11° 03′ N; λ=125° 43′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.6	22.4	80	66	6	4	0.4	● a. ●° p.
2	28.9	23.6	83	77	2	8	2	p d p.
3	29.3	22.8	91	75	7	3	------	●° p a.
4	29.3	23.8	80	61	1	2	------	
5	29.2	22.6	82	77	6	8	------	p° a.
6	29.4	25.3	78	71	4	8	11.2	● p.
7	29.8	23	89	81	9	8	.5	● a.
8	29.9	22.5	82	66	6	2	------	Ω p.
9	29.3	20	87	64	1	1	------	Ω² a.
10	29.5	22.4	87	68	8	2	------	Ω° p.
11	29.8	21.2	90	71	5	7	1.8	Ω a. d ●° p.
12	31	23.4	97	68	10	2	1.3	●° p° a.
13	30.1	20.3	98	72	2	5	------	Ω² a.
14	29.8	19.8	98	65	4	3	------	
15	29.8	19.4	96	63	4	3	------	
16	29.4	19.3	97	81	5	9	.3	d° a. d p.
17	29.9	22.2	66	54	5	3	------	Ω° p.
18	29.9	21.6	66	60	1	6	------	
19	30.1	23.4	74	56	1	1	------	
20	30.2	23.8	75	68	5	5	------	d° a.
21	28.9	23.3	88	79	9	9	4.9	●° p a. d p.
22	30.1	24.4	80	73	9	4	12.9	● a. p. p p.
23	29.7	22.9	85	72	9	2	4.6	●° a. p.
24	29.9	22.8	88	71	3	5	------	◠ p.
25	30.1	24.7	76	68	4	4	2.8	Ω ●° p.
26	29.8	23.1	79	69	2	3	------	
27	30.4	22.8	90	71	3	5	3.8	Ω² a. p p.
28	30.2	22.9	83	67	5	2	6.4	●° a. ◠ p p.
29	29.8	22.5	79	74	8	4	------	●° a. ◠² p.
30	30.4	24.9	80	70	2	6	.5	p ●° p.
31	30.1	24.6	83	64	2	2	1.7	p a.
Mean	29.8	22.6	84.1	69.1	4.8	4.4	------	
Total	------	------	------	------	------	------	55.1	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.4	22.3	79	63	7	4	0.3	● d a. ●° p.
2	29.5	23	87	67	7	8	13.2	d a. ● p.
3	29.8	22.7	97	71	7	6	.6	●° a. p. d ⌣ p.
4	29.4	21.6	96	60	5	5	2.8	Ω ≡° a. ☋° p.
5	29.8	20.6	96	68	7	7	1.5	●° ≡° d a.
6	30.3	24.5	78	69	8	7	1.5	d a. ●° a. p.
7	29.5	25.3	85	74	7	6	4.8	●° a. p.
8	29.9	25	78	66	6	5	------	●° a.
9	29.1	20.1	96	57	4	3	------	Ω² ≡° a.
10	28.2	21	95	73	8	7	3.5	Ω ≡° a. ●° a. p.
11	29.8	20.7	98	65	7	4	.3	Ω ≡ d a.
12	29.2	23.3	95	71	10	7	4.1	d a. ●° a. p.
13	30.2	21.2	98	64	3	3	------	Ω ≡ a. ○ p.
14	29.6	21	99	61	6	5	------	Ω ≡² a.
15	29.6	20	97	57	6	4	------	Ω ≡ a.
16	29.6	19.5	97	58	5	6	1	Ω ≡ a. ●° p.
17	30.2	21	95	46	8	3	------	≡° a.
18	30	19.3	95	54	4	6	------	Ω° ≡° a.
19	30	18.7	97	61	5	6	------	d° ≡ a.
20	30.3	21.4?	70	67	5	5	1.3	
21	28.6	23.2	79	73	7	7	10.2	●° a. p. ● p.
22	30.1	24.3	80	68	7	6	2.3	d² ⌣° p.
23	30.5	22.9?	82	77	7	4	.3	●° a.
24	30.1	22.8	96	65	6	5	------	Ω ≡° a. ☋° p.
25	30.2	22	97	64	6	4	------	Ω ≡ a.
26	30.3	22.6?	79	62	5	6	3.6	Ω a.
27	30.2	23.4	92	69	7	5	2.6	●° a.
28	30.5	22.6	81	69	6	4	1	●° a.
29	29.9	22.7	90	73	9	7	4.1	●° a. p. ⌣° p.
30	30.4	23.2	84	72	7	6	2.3	d° ●° a. d p.
31	30.2	23.3	87	62	8	4	1.3	●° d a.
Mean	29.8	22.1	89.5	65.4	6.4	5.3	------	
Total	------	------	------	------	------	------	62.6	

MASBATE.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	23.6	------	------	7	4	------	
2	29.5	23.2	------	------	10	6	------	
3	31.5	24	------	------	10	6	------	
4	31	23.8	------	------	10	8	------	
5	30.6	22.5	------	------	6	9	------	
6	32	23.6	------	------	8	5	0.5	
7	32.2	24.2	------	------	10	8	------	
8	31.2	24	------	------	8	6	------	
9	31.2	22.2	------	------	6	6	------	
10	30.4	22.6	------	------	9	4	------	
11	31.5	22.4	------	------	6	4	------	
12	31.6	23.6	------	------	8	4	------	
13	32.5	24.5	------	------	8	6	------	
14	31.8	23.6	------	------	9	8	------	
15	30.8	23.4	------	------	8	8	------	
16	31	22.5	------	------	9	8	------	
17	30.8	23	------	------	8	8	------	
18	32.2	22.2	------	------	7	6	------	
19	29.8	23.2	------	------	10	8	2.8	
20	31	24	------	------	8	6	------	
21	32	22.8	------	------	8	9	------	
22	32.8	24.4	------	------	8	7	------	
23	32.5	24.8	------	------	8	6	------	
24	32.5	23.8	------	------	8	4	------	
25	------	------	------	------	------	------	------	
26	32.8	------	------	------	------	7	.3	
27	30.4	23.2	------	------	8	9	4.1	
28	31.5	23.6	------	------	10	3	------	
29	31.2	24	------	------	6	8	------	
30	33	24.2	------	------	7	4	5.1	
31	31.6	23.4	------	------	9	6	1.3	
Mean	31.5	23.5	------	------	8.2	6.4	------	
Total	------	------	------	------	------	------	14.1[1]	

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.7	23.5	85	66	10	1	1	●° p° a.
2	32.2	22.6	83	63	7	3	.8	●° p.
3	32.1	23.1	92	71	4	2	7.1	● a.
4	32.7	23.4	84	62	9	3	------	
5	32.7	22.4	82	63	8	1	------	p° p.
6	33	23.8	88	63	10	4	1.3	p° ●° a.
7	33.2	23.8	85	64	10	2	------	
8	34.1	24.7	87	61	10	1	------	
9	33.1	21.9	88	59	10	1	------	Ω a.
10	32.9	23.4	81	57	9	1	------	
11	31.6	22.7	86	76	8	8	------	
12	33.9	21	97	62	10	5	------	Ω a.
13	33.6	21.7	97	74	10	5	------	Ω a.
14	34.6	22.6	89	56	3	3	------	
15	34.1	22.8	92	61	8	6	------	
16	34.2	22.5	78	50	5	4	------	
17	33.7	21.1	83	56	10	1	------	Ω a. d° p.
18	34	23.5	71	49	10	1	------	
19	33.6	23.8	82	59	6	3	4.6	d p.
20	33.6	22.9	86	59	8	2	------	●° a.
21	33.8	23.4	85	58	6	1	------	
22	32.5	24.2	84	65	10	8	1	p° a.
23	33.9	24.5	83	60	9	2	------	p° a.
24	34.7	23.8	84	57	10	1	------	
25	34.5	23.8	83	52	2	0	------	
26	34.6	22.2	83	59	5	2	------	
27	34.9	24.2	80	59	8	7	------	
28	35.8	24.4	82	53	6	1	------	
29	35.1	24.1	79	59	5	7	------	
30	35.1	24.8	79	55	10	0	------	d° a.
31	32.3	23.4	82	70	9	7	6.1	● a.
Mean	33.6	23.2	84.5	60.6	7.9	3	------	
Total	------	------	------	------	------	------	21.9	

[1] 30 days of observation.

Meteorological data for third and fourth class stations—Continued.

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	30.5	21.1	98	63	4	4	14	≡ ●° a. d p.
2	30.6	22.4	96	75	10	5	3.5	● ◠ a. ●° p.
3	30.2	23.7	89	71	5	4	------	d ◠ a.
4	30	20.7	98	61	4	4	.8	♋ ≡ a. ♈ p p.
5	30.3	20.9	97	72	6	4	8.1	◠ ●° a. ● p.
6	30.2	22.3	97	69	4	7	------	≡ a.
7	29.8	23.4	97	69	5	4	------	♋♋° a.
8	31.2	22.4	97	62	3	4	------	♋♋ ≡ a.
9	31.3	20.1	99	61	5	4	------	♋♋ ≡ a.
10	30.3	20.1	97	64	7	6	.3	♋ a.
11	30.4	21.6	97	69	8	2	------	p ◠° d a.
12	31.2	21.6	97	76	4	8	------	♋♋ ≡ d a. ⊤ p.
13	------	22.1	95	61	8	4	------	♋♋ a.
14	33.2	21.1	99	61	7	4	------	♋♋ a.
15	31.3	20.3	97	59	8	6	------	♋♋ a.
16	31	20.1	98	62	4	6	------	♋♋ ² a.
17	30.4	21.9	96	50	9	4	------	♋♋° a.
18	31	17.8	96	62	3	4	------	♋♋ a.
19	31	19.9	97	82	7	9	.7	♋♋° ●° a. d p.
20	30.3	21.6	92	67	8	4	.3	♋♋ ●° a. d p.
21	30.9	21.2	96	73	8	8	7.1	p° ◠° a. d° ● p.
22	30.8	23.6	93	68	8	5	------	d° p.
23	30.8	24.8	84	64	6	5	------	p° a.
24	30.7	21.3	97	71	2	4	------	♋♋ ² d° a.
25	31.5	20.4	98	62	5	3	2.3	♋ a. ♈ p.
26	30.6	21.1	97	70	9	8	.3	●° a. d a. p.
27	29.7	21.4	95	67	5	4	1.3	≡° p ●° a. d p.
28	30.8	21.2	96	64	4	2	3.3	♋ ◠° a. ●° p.
29	31.5	21.2	97	63	6	6	3	d a. ●° a. p.
30	31.5	21.4	96	66	1	4	6.9	● p.
31	31.9	23.6	95	69	7	4	1	p a. d° p.
Mean	30.8	21.5	95.9	66.2	5.8	4.8	------	
Total	------	------	------	------	------	------	52.9	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	29.2	23.8	94	75	7	7	------	●° a.
2	28.8	24.8	90	90	9	8	1	●° p.
3	29.3	25	89	80	9	7	------	
4	29	25.3	84	70	7	10	------	
5	29.4	22.9	94	80	10	10	5.1	●° p.
6	29	24.1	93	80	10	10	------	●° a.
7	29.2	24.4	98	81	8	7	------	d a.
8	30	25.6	93	81	8	7	------	
9	29.2	25.4	84	71	6	5	------	
10	29.7	24.4	84	75	7	8	------	
11	29.9	22.9	95	76	8	8	------	d a.
12	29.7	23.5	96	80	6	10	------	
13	30.2	25.7	92	78	10	7	------	
14	30.6	25.4	91	77	7	6	------	
15	30	24	87	68	8	6	------	
16	29.8	22.6	89	61	7	6	------	
17	28.7	22.7	91	80	8	10	7.4	● a. p.
18	29.4	24.8	72	68	6	9	5.1	
19	28.6	22.5	93	83	9	10	22.4	● a. d p.
20	29.1	23.3	83	74	8	6	------	d a.
21	29.7	25.5	85	76	8	9	------	
22	29.2	25.2	92	80	10	9	------	d p.
23	29.5	25.5	88	80	7	9	------	
24	30.2	25.6	88	77	7	6	------	
25	29.2	25.8	85	73	7	6	------	d° p.
26	28	23.6	90	76	9	8	------	
27	29.9	25.4	84	76	8	9	------	
28	30.3	25.8	90	77	7	6	9.1	● p.
29	29.6	24.2	86	81	9	7	2.8	● a. d p.
30	29.2	24.3	84	77	7	7	8.4	● p.
31	29.6	23.5	86	79	9	8	------	● a.
Mean	29.5	24.4	88.7	76.8	7.9	7.8	------	
Total	------	------	------	------	------	------	61.3	

SUMAY, GUAM (LADRONE ISLANDS).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	28.6	23.4	88	68	8	8	------	
2	29	24	83	70	5	5	------	
3	29.2	24	83	68	5	6	------	
4	29	24.6	83	70	6	8	------	
5	30	23.6	83	65	8	8	------	
6	29.4	24	83	66	5	6	------	
7	30.2	24	83	64	5	6	------	
8	28.6	24	83	74	10	9	------	
9	29	24	83	66	10	5	------	
10	29	24	83	70	6	7	------	
11	29.6	24	85	66	6	7	------	
12	30.2	23	83	58	6	4	------	
13	30	23.2	86	59	6	5	------	
14	30	21	83	58	6	5	------	
15	30	23.6	75	58	10	6	------	
16	29.6	23.8	83	70	5	7	------	
17	30.8	24	83	62	4	5	------	
18	29.6	24	83	63	6	8	3.8	
19	30	23.8	88	77	10	10	------	
20	30.4	24.2	87	58	10	10	------	
21	29	23.8	88	77	10	10	1.3	
22	27.6	24	83	80	10	10	------	
23	29	24	83	70	10	10	2.5	
24	29.6	23	87	65	10	7	2.1	
25	30	23.8	90	64	10	10	2.5	
26	29.6	24.2	83	67	10	10	------	
27	28.6	24	83	74	10	8	------	
28	29.2	24.2	87	73	6	8	------	
29	29.6	23.4	85	61	6	5	2.5	
30	28	22.6	85	77	6	10	1.3	
31	28.8	24.4	83	69	5	7	------	
Mean	29.4	23.7	84.1	67.3	7.4	7.4	------	
Total	------	------	------	------	------	------	16	

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	33.3	24.5	83	56	8	3	------	
2	31.1	24.1	79	65	10	10	------	♈ ⌣ ●° p.
3	33	23.4	95	71	10	6	------	♈ ⌣ p.
4	33	23.3	91	64	10	9	------	
5	33.5	22	85	67	10	7	------	
6	33.5	23.5	94	59	10	3	3.8	p° a.
7	33.5	23.5	89	56	8	8	------	●° p.
8	34	24.9	92	51	8	3	------	●° a.
9	34.2	23.5	91	54	7	3	------	♌ a.
10	33.6	22.8	91	46	8	3	------	
11	31	20.7	87	66	9	8	------	
12	31?	20	92	60	3	8	------	
13	34.1	22.1	95	65	9	7	------	
14	33.9	22	89	58	10	10	------	
15	33.2	24	87	55	10	8	1.8	
16	34	23.1	94	50	10	9	3.8	p d° a.
17	32.5	21.1	94	47	10	3	------	●° p.
18	34.1	23	88	53	10	9	15.5	p² p.
19	33.1	21.5	96	90	10	10	12.7	● a. p.
20	32.9	22.3	85	50	10	8	------	
21	32.4	22.5	95	57	4	8	------	
22	32.8	25.1	80	54	8	10	------	
23	33.6	24	90	49	10	9	4.6	p p.
24	33	23.8	93	53	10	3	------	
25	33	23.9	87	54	8	2	------	
26	31.9	23.1	80	66	2	10	------	
27	33	24	86	45	9	3	.3	p p.
28	33.6	24	86	48	10	3	------	
29	33	23.5	91	59	9	4	20.8	● p.
30	33.1	23	81	52	10	4	------	
31	33.5	25.5	76	62	10	10	18.5	●° a. p. p² p.
Mean	33.1	23.2	88.5	57.5	8.7	6.5	------	
Total	------	------	------	------	------	------	81.8	

Meteorological data for third and fourth class stations—Continued.

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.8	22	83	56	8	3	------	☾ a.
2	32	20	95	71	7	7	2.3	☊² a. ☿° ☋ p.
3	31.7	22	90	62	9	8	.1	●° d a. ☋ p.
4	32	21.4	83	52	5	4	.4	☊° a. ☿° ☋ p.
5	32.2	20	98	63	8	5	2	☾ ●° a.
6	32.5	23	86	60	7	5	.8	●° a.
7	31.2	21	96	72	9	8	3.1	☾° ●° a.
8	31.4	23	87	68	9	5	1.5	●° d a. ☿° p.
9	30.7	22	85	58	4	4	------	●° a.
10	32	19.2	96	63	6	6	------	☊ a.
11	32.5	19.8	98	65	2	5	------	☊² ☿° a.
12	32.7	20	97	71	3	5	------	☊² a.
13	32.5	23.8	85	69	9	4	------	☊ ☌☌² a.
14	31.7	21.3	96	69	9	7	------	☊ ☌☌° a.
15	32	20	95	66	5	8	------	☊ a.
16	31.8	19.5	97	61	8	4	1.8	☊ a.
17	30.7	19	94	64	10	5	1.3	●° ☾° ☿° a.
18	32.2	18.8	95	55	3	3	------	☊² ☌☌° a.
19	30.5	19.6	95	92	8	10	19.6	☊ a. ☾ ●° p.
20	30.2	22	86	71	10	6	4.6	● ☾ ☿° a.
21	32.5	20	96	64	8	6	1.3	☾° ☌☌° a. ☿° p.
22	32.4	23	86	60	5	9	11.9	● ☿° ☾ a. p. ☋ p.
23	32	23	84	66	5	6	------	☋ ☿° p.
24	31.5	20.8	93	66	4	4	------	☊ ☿° a.
25	31.6	21.2	96	61	9	4	1.8	p ☾ a.
26	30.4	20.4	97	70	10	8	11.9	☾ ● a. ☿° ☋ p.
27	32	21.2	80?	78	8	9	------	☿° a. p. ☾ ☋ p.
28	31	22.4	88	71	5	4	2.8	●° a. ☿° a. p. ☋ p.
29	31.4	23	87	70	6	9	1.8	☾ p a. p. ☄ ☋ ●° p.
30	32.3	23	84	64	7	4	.3	☿° a. p. ☋ p.
31	31.5	23	83	67	8	6	.5	☾ ●° a.
Mean	31.7	21.2	90.7	66	6.9	5.8	------	
Total	------	------	------	------	------	------	69.8	

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	17.5	95	49	3	8	------	
2	31.5	15	96	70	6	9	------	
3	33.8	17.7	98	42	7	7	------	
4	32	16.1	96	55	6	7	------	
5	30.6	17	92	66	9	8	------	
6	33.8	18.9	94	61	8	9	------	
7	31	18.3	95	65	3	8	------	
8	33.5	18.2	94	40	5	7	------	
9	32.6	18.3	92	54	3	7	------	
10	31.7	15.8	96	56	4	6	------	
11	32.2	16	98	59	5	8	------	
12	35.5	18.9	98	45	5	8	------	
13	33.5	20	96	53	6	8	------	
14	34.3	20	95	64	7	8	------	
15	33.1	18.5	96	52	7	8	------	
16	33.1	18.9	95	50	8	9	------	
17	32	15.7	92	60	7	7	------	
18	33.1	17.3	96	46	6	8	------	
19	30.8	19.9	93	72	8	9	1	p p.
20	31.5	20.6	96	59	6	10	------	
21	34	17.6	96	64	5	9	------	
22	31.3	19.4	95	60	3	8	------	
23	34.5	19.2	96	37	6	8	------	
24	33.6	18.1	96	58	4	8	------	
25	33.5	18.5	95	48	10	8	------	
26	31.5	16	94	53	4	8	------	
27	33.9	17.1	97	63	3	9	------	
28	34.5	20	95	42	3	7	------	
29	34.4	19.7	89	64	8	9	------	
30	34	21.1	90	42	8	7	------	
31	33	20.1	93	50	5	8	------	
Mean	32.9	18.2	94.8	54.8	5.7	8	------	
Total	------	------	------	------	------	------	1	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.4	21.1	88	50	1	6	------	
2	34.3	20.4	91	45	3	7	------	☊ a.
3	35.4	21.2	93	45	3	6	------	
4	34.7	21.8	88	42	3	6	------	
5	34.8	19.3	89	47	6	6	------	
6	35.3	22.4	92	39	4	3	------	
7	36.8	23	84	39	1	4	------	
8	34.9	22.2	85	43	1	3	------	
9	34.5	23.5	91	46	5	5	------	
10	35.5	21	90	40	3	4	------	
11	34.9	19.9	93	45	6	5	------	
12	34.3	20.8	93	49	1	1	------	
13	34.3	20.1	89	45	3	4	------	
14	35.3	22.6	89	45	4	3	------	
15	35.4	22.7	93	44	5	5	------	
16	34.3	21.6	83	61	6	4	------	
17	36.8	20	80	30	4	3	------	
18	35	20.4	95	40	3	6	0.3	☿° p.
19	------	21.2	91	36	9	7	.3	d a.
20	34.3	22.1	85	49	5	4	------	
21	36.6	22.4	90	33	3	3	------	
22	36.2	22.8	88	39	1	5	.3	d p.
23	36.3	22.4	90	43	4	4	------	
24	36	22.3	86	39	3	3	------	
25	36	22.6	88	47	1	3	------	
26	35.3	21.3	90	44	3	3	------	
27	36.4	23.2	83	35	0	3	------	
28	35.4	22	85	48	1	3	------	
29	37.3	22.3	81	40	1	7	------	
30	36.6	23.6	83	39	6	4	------	
31	35.5	24	80	46	4	4	------	
Mean	35.4	21.8	87.9	43	3.3	4.3	------	
Total	------	------	------	------	------	------	.9	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	19.6	97	63	3	8	1.3	☊ ≡ p a.
2	30.6	19.1	96	67	7	4	------	
3	30.7	19.4	96	65	3	4	------	
4	31.2	20	95	64	7	8	------	
5	31.5	18.4	95	64	2	2	------	
6	30.7	20.3	98	63	7	8	------	
7	31.6	21.2	96	62	9	4	------	
8	31.4	21.1	96	60	10	7	------	☊ a.
9	32.3	20.2	97	62	4	2	------	
10	32.5	18.3	96	62	2	8	------	
11	31	18.8	95	58	7	8	------	
12	31.7	18.1	97	57	2	9	------	
13	35.3	17.9	95	53	7	7	------	
14	34.2	20.3	96	56	8	5	------	☊ a.
15	34.3	21.5	97	55	9	4	------	☊ a.
16	33.6	18.8	97	58	7	7	------	
17	32.4	20	96	59	9	8	------	
18	32.3	19.5	95	58	4	8	4.6	
19	31.3	20	97	77	10	9	------	●° d a.
20	31.7	20.6	95	60	5	7	------	
21	31.3	20.2	98	59	2	7	------	
22	32.1	21	96	56	3	4	------	☊ a.
23	30.7	20.6	96	62	8	8	------	☿° d a.
24	30.5	21.1	98	61	5	7	------	≡ a.
25	29.9	20.7	96	58	2	2	------	
26	31.2	19.6	96	58	2	5	------	
27	30.7	20.1	97	56	4	8	------	
28	30.4	20.8	96	60	2	3	------	
29	31.7	21	97	62	5	2	------	
30	32.2	20	97	60	7	6	------	
31	31	19.1	96	60	9	8	------	
Mean	31.7	19.9	96.3	60.5	5.5	6	------	
Total	------	------	------	------	------	------	5.9	

Meteorological data for third and fourth class stations—Continued.

SANTA CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	19.7	95	65	4	7	4.6	d² a.
2	30.1	19.8	96	57	4	7	.5	d p.
3	31	20	98	63	8	7	------	
4	31.6	20.5	96	51	6	5	------	
5	30.7	19.5	96	60	4	4	.3	
6	31.7	20.3	96	54	5	5	------	d a.
7	31.9	21.6	91	56	7	5	------	
8	32.8	21.5	95	53	4	4	------	
9	32.9	22	90	51	4	3	------	
10	31.2	19	96	55	3	3	------	
11	32.6	19.2	97	54	2	6	------	☊² a.
12	34.6	19	97	47	1	4	------	☊ a.
13	34.4	20.2	96	47	4	4	------	
14	34.7	21.6	96	48	5	5	------	
15	33.5	22	96	47	6	4	------	
16	32.8	21.3	96	53	8	5	.8	d a.
17	32.1	19.4	96	42	8	3	------	☊ a.
18	31.5	18.7	97	47	3	7	.5	
19	27.8	21.7	96	79	9	8	2.8	d a.
20	31.8	22	90	54	4	5	1	d a.
21	32.3	19.8	97	49	3	4	1.5	☊ a.
22	31.7	21	96	56	10	4	5.6	d a. d° p.
23	30.7	22.6	95	63	8	4	10.9	●° a.
24	31.9	22.8	95	64	7	7	------	
25	32	21.4	95	54	6	3	------	
26	31.4	21.4	89	58	2	4	.3	
27	31.6	21.1	90	46	4	4	------	d° a.
28	32.2	21	96	57	4	5	------	☊° a.
29	31.9	20.8	96	59	2	4	------	☊ a.
30	32.5	20.8	90	55	4	5	.3	☊° a.
31	30.6	21	88	61	7	6	1.3	d ◠ a. d² p.
Mean	31.9	20.7	94.6	55	5	4.9	------	
Total	------	------	------	------	------	------	30.4	

ANTIPOLO.

[ϕ=14° 36′ N; λ=121° 10′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.4	21.2	70	43	1	4	------	p° p.
2	33.2	21.3	62	40	4	4	------	
3	33.4	21.1	78	50	3	8	------	p° a.
4	32.6	21.5	80	54	6	8	------	
5	33.7	19.3	81	43	3	4	------	
6	34.8	20.5	79	41	3	3	------	
7	35	21.8	76	48	2	5	------	
8	35.2	22.5	81	42	2	3	------	☊° a.
9	35.8	22.8	79	40	3	5	------	
10	34.2	21.6	71	38	2	2	------	
11	34.4	18.3	80	39	2	3	------	
12	35.7	21.1	74	38	2	3	------	
13	36	21.5	76	40	3	4	------	
14	36	22.2	78	45	5	4	1.5	●° ⌐◪ p.
15	34.4	22.2	79	52	5	8	2	⌐◪ ●° p.
16	35.1	21.4	77	43	5	8	------	
17	35.6	20.2	70	35	8	5	------	
18	31.5	21	75	46	4	9	------	
19	32.7	20.6	95	63	8	9	------	
20	33.2	22.7	72	51	2	3	------	↙° a. p.
21	34.1	21.8	75	41	2	4	------	
22	35	21.6	78	33	2	3	------	
23	34.5	22	91	38	8	4	------	
24	34.7	20.8	78	42	7	3	------	
25	35.3	21.6	79	42	2	2	------	
26	34.4	21.2	66	37	1	3	------	
27	35.1	22.3	69	36	1	2	------	
28	34.9	21.7	74	40	1	3	------	
29	35.2	23.2	71	53	1	7	------	
30	34.8	21.2	79	46	3	6	------	
31	34.7	23.1	71	43	3	7	------	
Mean	34.5	21.5	76.3	43.3	3.4	4.7	------	
Total	------	------	------	------	------	------	3.5	

IBA.

[ϕ=15° 20′ N; λ=119° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.4	17.6	89	50	1	2	------	
2	32	18.3	87	52	5	3	------	
3	34	18.4	80	55	3	4	------	
4	31.6	20.1	85	62	10	10	------	d p.
5	33	19.1	85	54	5	5	------	
6	32.2	19.2	94	56	2	2	------	
7	32.5	19.5	92	53	1	2	------	
8	32.5	21.5	83	60	3	4	------	
9	32.7	21.5	88	59	6	9	------	d p.
10	32.1	21.5	96	56	4	3	------	≡° a.
11	31.9	19.3	92	62	4	5	------	
12	31.5	18.5	95	57	5	4	------	☊ ≡° a.
13	32.4	17.4	95	53	8	4	------	≡° a.
14	33	19	89	57	8	5	------	◟ p.
15	33	20	92	62	4	8	1.9	d° ●° p.
16	31.5	20.5	94	83	6	10	.2	d p.
17	32.5	21	94	69	5	10	------	d p.
18	31.2	22.5	90	68	10	10	.4	d ◠ p.
19	31.6	22.6	72	64	5	9	------	
20	32.2	20	95	59	4	3	------	≡° a.
21	32.5	20	94	55	3	5	------	
22	33.1	20.5	71	56	1	3	------	
23	37	19.5	83	52	3	3	------	
24	32.5	20	84	56	2	2	------	
25	34.2	19.9	90	57	1	2	------	
26	37.2	23	68	42	1	1	------	
27	36	20.5	74	49	2	3	------	
28	33.5	19.5	66	52	1	2	------	
29	35.8	20.4	73	59	1	3	------	
30	34.5	19.5	89	54	1	4	------	
31	------	23	62	45	1	9	------	
Mean	33.1	20.1	85.2	57	3.7	4.8	------	
Total	------	------	------	------	------	------	2.5	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	36	17.9	95	42	3	3	------	☊ ≡° a.
2	35.7	19	94	42	2	8	------	☊ a.
3	36.1	19.6	88	43	4	3	------	☊ a.
4	33.9	19.6	94	41	4	8	------	☊ a.
5	36	18.4	94	36	3	2	------	☊ a.
6	36	18.2	88	40	2	2	------	☊ a.
7	36.2	20	90	40	2	2	------	☊ a.
8	36.2	21	91	43	3	3	------	☊ a.
9	36.7	21.4	89	45	4	3	------	☊ a.
10	36	21.2	93	42	3	8	------	☊ a.
11	37	17.6	93	36	0	1	------	☊ a.
12	37.2	19.2	95	37	2	3	------	☊ ≡° a.
13	36.3	19	95	39	3	3	------	☊ ≡° a.
14	38	21	95	44	3	2	------	☊ ≡° a.
15	36	20.8	95	44	4	4	------	☊ ≡° a.
16	38	21	95	35	4	4	------	☊ ≡° a.
17	36.6	23.3	90	43	10	10	------	
18	35.2	23.4	92	42	9	9	9.7	● p.
19	34.4	22.5	82	43	10	9	------	
20	36.2	19.6	92	43	2	3	------	☊ a.
21	37	19.4	92	43	3	7	------	☊ a.
22	34.5	19.4	90	37	2	2	------	☊ a.
23	35.4	19.8	89	41	3	2	------	☊ a.
24	37	19.1	90	36	2	3	------	☊ a.
25	36.5	20.6	93	38	1	2	------	☊ a.
26	35.7	18.8	95	38	0	2	------	☊ ≡° a.
27	36.5	19.2	91	38	2	2	------	☊ a.
28	36.5	18.4	91	41	2	3	------	☊ a.
29	37.5	19.8	91	38	2	2	------	☊ a.
30	36.5	20	91	39	3	2	------	☊ a.
31	36.6	19	90	35	2	3	------	☊ a.
Mean	36.2	19.9	91.7	40.1	3.2	3.9	------	
Total	------	------	------	------	------	------	9.7	

Meteorological data for third and fourth class stations—Continued.

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	18.5	96	70	10	4	------	☊² ☰° a.
2	30.6	20.1	97	76	10	1	------	☊ ☰ a.
3	30.7	20.5	94	76	10	10	23.6	☌ ☿ ●² p.
4	28	21.4	98	92	10	10	9.4	● a. p. ☌ p.
5	29.4	20.5	97	73	10	1	------	☊ ☰ a.
6	30.2	19.2	95	75	10	1	------	☊° ☰° a.
7	30.5	20.5	96	76	10	3	7.4	☊ ☰ a.
8	29.7	22.1	97	81	10	2	1.3	● ☰ d² a.
9	30.4	21.8	97	75	10	1	2.9	● ☌ a.
10	29	22.5	98	75	10	1	.5	● ☰ a.
11	30.7	17.8	98	70	10	1	------	☊² ☰ a.
12	31.7	18.7	95	70	10	1	------	☋² ☰° a.
13	31.2	20.6	97	78	10	2	------	☊² ☰ a.
14	32.7	21.6	96	73	10	4	------	☊ ☰° a. ☾² p.
15	29	23.9	96	82	10	10	2.3	☌ ●° a.
16	30.7	20.3	95	80	10	2	------	☊ ☰ a.
17	30.4	19.9	96	74	10	9	------	☊ ☰ a.
18	27.2	22.3	96	88	10	10	1.1	● a. p.
19	27.8	23	81	80	10	10	.8	● p.
20	29.2	22.8	96	82	10	9	18.8	☊ ☰° ☌ a. ● a. p.
21	29.5	22.5	98	80	10	2	1	● a.
22	30.4	20.2	96	75	10	1	------	☊² ☰° a.
23	30.6	22.3	86	77	10	3	------	
24	30.3	19.7	96	78	10	10	8.6	☊ ☰° a. ● p.
25	29.1	21.5	98	83	10	7	17	● a.
26	29.7	20.2	95	76	10	1	------	☊ ☰° ☌ a.
27	30.3	19.1	98	77	9	1	------	☊ ☰ a.
28	30.9	18.6	93	70	10	1	.3	☊² a. ● p.
29	31.2	21.2	97	77	10	2	4.4	☊ ☰ ●° a. ☿ p.
30	30.8	23.5	94	79	10	2	.5	● ◠ a. ☿ p.
31	30.7	20.5	97	79	10	1	4.2	☊ ☰ ☌ a. ☿ ● p.
Mean	30.1	20.9	95.5	77.3	10	4	------	
Total	------	------	------	------	------	------	104.1	

SAN FERNANDO, UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.9	20.8	88	47	0	0	------	☊² a.
2	31.3	20.2	90	62	4	0	------	☊ a.
3	32.1	18.5	97	51	1	0	------	☊ a.
4	31.8	22.1	91	65	5	9	------	
5	32.3	20.1	87	55	1	1	------	
6	31.3	21.1	92	63	1	0	------	☊° a.
7	31.4	21.4	93	68	1	2	------	☊² a.
8	33.3	21.5	92	53	1	2	------	☊° a. ☿° p.
9	32.9	24.2	81	55	3	2	------	
10	34.3	24	81	53	10	1	------	
11	32.1	23	88	50	2	1	------	
12	32.4	21	84	55	1	2	------	☊° a.
13	32.4	21	88	55	3	4	------	
14	32.3	20.5	86	58	6	3	------	☊° ☾° a. ☾° p.
15	32.7	21.4	81	58	6	1	------	☊° a.
16	32	22	89	61	4	3	------	
17	31.9	22.5	84	67	10	1	------	
18	31	22.3	90	62	10	4	------	
19	31.6	23.3	84	58	10	3	------	
20	32.3	21.1	90	57	5	1	3.6	☊° a.
21	31.7	23.5	93	62	10	1	------	☌² a.
22	32.6	21.2	85	53	1	3	------	☊ a.
23	35	20.2	83	47	1	0	------	☊ a.
24	32.4	21.5	86	65	8	0	------	☊ a.
25	33.4	21.8	90	58	1	3	------	
26	35.1	23.7	82	44	1	0	------	
27	32.3	20.5	90	55	4	1	------	☊° a.
28	33.8	20.8	91	45	1	0	------	☊° a.
29	33.5	22.2	87	49	1	1	------	
30	32.9	20.7	84	55	2	0	------	
31	32.5	20.5	83	58	1	0	------	
Mean	32.6	21.6	87.4	56.3	3.7	1.6	------	
Total	------	------	------	------	------	------	3.6	

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.1	16.8	94	42	0	5	------	☊ a. ☌ p.
2	34.3	18.1	96	38	1	1	------	☰° ☊° a. ☌° p.
3	33.9	17.1	95	53	2	8	------	☰° ☊° a. ☌° p.
4	31.5	20.4	88	58	9	9	------	☌ p.
5	34.9	18	98	33	3	6	------	☰° ☊ a. ☌° p.
6	35.8	18.3	90	35	1	4	------	☊° a. ☌° p.
7	36.1	18.6	94	35	0	3	------	☊ a. ☌ p.
8	37.2	19.3	88	41	7	5	------	☌° p.
9	36	21.2	89	40	6	3	------	☌ p.
10	35.6	21.4	90	41	6	5	------	☌ p.
11	36	16.5	85	28	2	1	------	☌ p.
12	36.1	16.6	89	34	0	2	------	☊ a. ☌² p.
13	35.3	20.7	89	39	4	7	------	☌² p.
14	35.4	22.6	86	39	10	7	------	☌² p.
15	36	21.4	89	43	6	4	------	☌ p.
16	36.1	20.5	91	37	4	3	------	☊° a. ☌ p.
17	36.5	21	87	53	8	3	6.1	● a. ☌ p.
18	27.1	21	96	83	10	10	3.3	● a. d° a. p.
19	29.3	19.9	92	65	10	9	------	
20	34.6	20	96	38	10	6	------	☰° ☊ a. ☌ p.
21	34.4	20.9	88	53	10	7	------	☊° a. ☌° p.
22	34.3	18	88	35	2	4	------	☊° a. ☌ p.
23	35	17.4	90	35	1	5	------	☊ a. ☌ p.
24	36.3	17.1	87	31	1	2	------	☌ p.
25	35.5	19.2	90	34	1	7	------	☌° p.
26	35.7	19.5	95	29	1	1	------	
27	36.3	15.4	89	31	0	1	------	☊° a. ☌ p.
28	36.7	17	91	32	0	2	------	☌ p.
29	36.3	18	93	34	0	4	------	
30	35.3	18.9	91	34	1	8	------	
31	35.7	16.4	90	30	0	4	------	
Mean	34.9	18.9	90.8	40.4	3.7	4.7	------	
Total	------	------	------	------	------	------	9.4	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.9	20.5	84	60	1	1	------	☊² a.
2	30	20.2	82	65	3	0	------	☊² a.
3	30.5	19.8	81	61	2	1	------	☊² a. ☿ p.
4	30.4	19.2	76	60	8	3	------	☊² a.
5	30	19.5	80	58	3	4	------	☊ a. ☿ p.
6	30.5	19.7	83	50	2	3	------	☊ a.
7	30.2	22.5	80	69	9	4	------	☊ a.
8	30.9	22.5	87	67	2	3	------	☊ a.
9	30.8	22.5	83	70	2	4	------	☊ a.
10	31.2	24.5	83	63	5	0	------	☊ a.
11	29.7	24.2	84	72	1	6	------	☊ a.
12	30.9	23.2	83	63	3	2	------	☊ a.
13	31.5	21.5	81	55	4	6	------	☊ a.
14	31.7	21.4	77	53	8	4	------	☊ a.
15	30.8	21.2	72	56	5	1	------	☊ a.
16	30.7	22.1	78	63	3	2	------	☊ a.
17	30.8	22.6	79	64	8	0	------	☊ a.
18	31.2	22	82	59	8	7	------	
19	30.4	22	66	63	2	4	------	☊ a.
20	30.4	22	74	61	3	2	------	☊ a.
21	31.2	21.9	82	58	2	0	------	☊ a.
22	30.7	21.9	76	58	2	1	------	☊ a.
23	31.3	21.4	79	56	1	1	------	☊ a.
24	30.7	21.5	79	62	2	3	------	☊ a.
25	30.7	22.4	79	62	2	8	------	☊ a.
26	30.8	22.5	78	58	2	3	------	☊ a.
27	30.7	22.5	79	65	2	0	------	☊ a.
28	30.2?	22.5	78	64	1	2	------	☊ a.
29	31.2	22.5	79	62	3	0	------	☊ a. ☩ p.
30	31.2	22.5	75	62	2	0	------	☊ a.
31	31.2	22.2	80	61	1	1	------	☊ a.
Mean	30.7	21.8	79.3	61.3	3.3	2.5	------	
Total	------	------	------	------	------	------	------	

Meteorological data for third and fourth class stations—Continued.

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	21.1	96	65	0	1	------	☊² ☰° a.
2	31.7	21.3	97	56	0	0	------	☊² a.
3	30.6	19.5	97	63	0	1	------	☊² ☰ a.
4	31.7	20.5?	97	54	0	1	------	☊² a.
5	31.3	21.8	96	65	0	1	------	☊² a.
6	31.5	22.1	92	65	0	1	------	☊² a.
7	32.4	20.9	97	54	0	1	------	☊² a.
8	32.3	22	91	66	0	1	------	☊ a.
9	32.5	22.4	92	60	0	0	------	☊° a.
10	32.8	22.3	89	64	0	2	------	
11	32.2	22.4	91	61	9	1	------	
12	31	21	96	56	0	0	------	☊ a.
13	32	22.1	89	53	10	2	------	☊° a.
14	33.4	19.7	97	58	3	3	------	☊ a.
15	33.3	19.5	98	65	0	3	------	☊² ☰° a.
16	32.1	20.9	97	68	0	1	------	☊ ☰° a.
17	31.3	21.5	96	66	1	3	------	☊° a.
18	31.9	22.5	93	58	3	3	------	
19	33.9	20.3	97	57	2	3	------	☊ ☰ a.
20	30.9	21.4	80	63	6	2	------	
21	32.4	20.4	95	58	2	1	------	☊° ☰° a.
22	32	21.1	93	61	1	3	------	
23	32.1	20.5	94	68	1	0	------	
24	32	21.5	88	61	0	2	------	☊° a.
25	32.9	19.1	93	52	1	1	------	☊ a.
26	33	21.7	94	61	0	2	------	
27	32.3	21.8	92	63	0	1	------	
28	32.6	20.4	96	55	0	1	------	☊° a.
29	33.8	21	96	53	0	1	------	
30	34.5	20.6	95	51	0	1	------	☊ a.
31	34.8	19.6	97	49	0	0	------	☊² ☰ a.
Mean	32.2	21.1	93.9	59.6	1.3	1.4	------	
Total	------	------	------	------	------	------	------	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	20.7	92	71	5	3	------	☊² a.
2	29.6	20.4?	88	74	5	5	------	☊ p.
3	29.6	22.4	82	74	3	5	------	v a.
4	30	22.4	90	78	5	7	------	
5	29.1	22.9	83	69	3	5	------	
6	29.8	22.2	82	71	4	0	------	v a. ☊ p.
7	30.2	22.8	86	77	2	5	------	
8	29.4	22.7	87	73	3	4	------	☊² p.
9	30	21.7	97	76	4	3	------	☊² a.
10	30.1	19.2?	91	77	5	4	------	v a. ☊ p.
11	29	20.7	98	81	0	1	------	☊ a.
12	27.8	22.9	90	78	2	5	------	☊² p.
13	27	19.8	90	86?	7	6	------	
14	25.2	20.6	88	83	8	8	------	d° a.
15	30	21.9	91	82	5	6	0.3	
16	26.5	22	91	82	7	4	------	d a. d° p.
17	24	19.8	89	86	5	9	3.8	d p.
18	21.1	16.6	79	76	10	10	.2	●° d a. ⸗° a. p.
19	23.3	18	81	73	7	9	------	d° a.
20	27.5	19.6	86?	74	8	6	------	
21	30.2	23	88	80	2	4	------	
22	28.5	19.8	90	80	8	4	------	
23	29.2	20.2?	90	72	2	2	------	
24	29	22.4	91	78	6	3	------	☊² p.
25	27.9	18.7	95	74	3	3	------	☊ a.
26	28.2	20.8?	91	79	3	5	------	
27	30.4	22.8	87	68	4	0	------	
28	30.7	23	89	70	1	2	------	
29	31.5	24	87?	70	1	1	------	
30	31.4	23	88	64	1	3	35.6	☊² d p.
31	23.6	21	92	88	10	10	16	●² d a.
Mean	28.3	21.2	88.7	76.3	4.5	4.6	------	
Total	------	------	------	------	------	------	55.9	

SEISMOLOGICAL BULLETIN FOR MARCH, 1912.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

1, $3^h\ 53^m$ [$1, 11^h\ 53^m$]. **Dapitan** (NW of Mindanao). Oscillatory earthquake. Directions S–N, intensity III–IV, duration 4 seconds.

2, $4^h\ 45^m$ [$2, 12^h\ 45^m$]. **Sarangani** (S of Mindanao). Earthquake of intensity III.

3, $5^h\ 57^m$ [$3, 13^h\ 57^m$]. **Agusan Valley** (E of Mindanao). Earthquake of force V and long duration. Its origin lay in the central part of the valley, and the shocks must have been perceptible to a distance of more than 100 kilometers in the direction N–S.

6, $11^h\ 41^m$* [$6, 19^h\ 41^m$]. **Laoang** (N of Samar). Oscillatory earthquake. Direction N–S, intensity IV, duration 8 seconds.

7, $4^h\ 44^m\ 0^s$* [$7, 12^h\ 44^m\ 0^s$]. **Northeastern Mindanao.** Earthquake of intensity V, whose epicenter would seem to have been situated in the northern part of the Agusan Valley, where two repetitions of force III were felt at $5^h\ 4^m$ and $5^h\ 14^m$ respectively [$13^h\ 4^m, 13^h\ 14^m$]. Toward south, at Talacogon, these repetitions were not noticed, but a small quake of intensity III had occurred there at $0^h\ 24^m$ [$8^h\ 24^m$].

8, $1^h\ 8^m\ 28^s$* [$8, 9^h\ 8^m\ 28^s$]. **Agusan Valley** (E of Mindanao). Earthquake of intensity IV which had the same origin as the preceding, viz., in the northern part of the valley. At Butuan which is west of, and apparently very close to the epicenter, were observed both, trepidatory or vertical movements and very rapid oscillations in various directions which created the impression of a rotary movement. Its duration did not exceed 10 seconds, and it was registered in Manila and Zikawei.

8, $23^h\ 20^m\ 44^s$* [$9, 7^h\ 20^m\ 44^s$]. **Northeastern Mindanao.** Earthquake of intensity VI. The epicenter of this and other disturbances felt during this month in the northern region of the Agusan Valley seems to lie very close to the mouth of the Agusan River: this is the conclusion to which point the notices received from various places in northeastern Mindanao. Thus at Butuan, situated on the western bank of the river and some 10 kilometers from its mouth, the movements were very strong, especially in the directions ENE–WSW and E–W, and seemed to come from the other side of the river. At Surigao, some 90 kilometers north of the supposed epicenter, the intensity was III; the same intensity was experienced at Talacogon which lies about 70 kilometers to the south of it. Hence, there appears to be no doubt that the pleistoseismic region formed a very elongated ellipse with major axis lying N to S, along the banks and eastern shore of the mouth of the Agusan River.

10, $17^h\ 35^m$ [$11, 1^h\ 35^m$]. **Butuan** (N of Mindanao). Earthquake of intensity III, lasting 2 seconds.

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in Greenwich mean time (midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

11, $15^h\ 34^m\ 33^s$* [11, $23^h\ 34^m\ 33^s$]. **Butuan** (N of Mindanao). Oscillatory and trepidatory earthquake. Direction ENE–WSW, intensity IV, duration 8 seconds. Despite its small intensity and extension, this disturbance seems to have been recorded by the seismographs of Formosa and Zikawei.

11, $23^h\ 50^m$ [12, $7^h\ 50^m$]. **Talacogon** (Agusan Valley). Earthquake of intensity IV and long duration.

12, $2^h\ 11^m$ [12, $10^h\ 11^m$]. **Tacloban** (NE of Leyte). Oscillatory earthquake having direction N–S and intensity II–III.

12, $6^h\ 25^m$ [12, $14^h\ 25^m$]. **Borongan** (E of Samar). Earthquake of intensity III and 4 seconds' duration.

12, $6^h\ 30^m$ [12, $14^h\ 30^m$]. **Butuan** (N of Mindanao). Oscillatory and trepidatory earthquake. Direction ENE–WSW, intensity III, duration 8 seconds.

14, $6^h\ 26^m\ 26^s$* [14, $14^h\ 26^m\ 26^s$]. **Agusan Valley** (E of Mindanao). Earthquake of intensity IV, whose epicenter seems to have been in the central portion of the valley. It was felt with almost equal intensity at Butuan and Talacogon; but a repetition which took place at Talacogon at $7^h\ 56^m$ [$15^h\ 56^m$], was not perceived at Butuan. This earthquake was registered in Formosa and at Zikawei.

16, $13^h\ 6^m$* [16, $21^h\ 6^m$]. **Butuan** (N of Mindanao). Oscillatory earthquake. Direction ENE–WSW, intensity III, duration 4 seconds.

17, $15^h\ 25^m\ 8^s$* [17, $23^h\ 25^m\ 8^s$]. **Agusan Valley** (E of Mindanao). Earthquake of intensity V–VI, felt throughout the valley. Its epicenter lay probably in the northern part of the valley, between Butuan and Talacogon. At both these stations were observed two repetitions of force III at $15^h\ 28^m$ and $15^h\ 32^m$ [$23^h\ 28^m$, $23^h\ 32^m$]; Talacogon experienced an additional earthquake of intensity IV at $19^h\ 10^m$ [$3^h\ 10^m$ of the 18th]. The principal disturbance of the 17 has been recorded in Formosa and at Zikawei.

19, $14^h\ 2^m$* [19, $22^h\ 2^m$]. **Agusan Valley** (E of Mindanao). Earthquake of intensity V, felt throughout the valley. Its epicenter appears to have been identical with that of the preceding.

At $15^h\ 51^m$* [$23^h\ 51^m$] another earthquake was felt at Butuan and Surigao, having intensity IV. Since it was not perceptible at Talacogon, it presumably originated in the center assigned to the shock of March 8th, viz., near the mouth of the Agusan River.

20, $17^h\ 20^m$ [21, $1^h\ 20^m$]. **Aparri** (NE of Luzon). Oscillatory earthquake of intensity III, direction N–S.

21, $4^h\ 30^m$ [21, $12^h\ 30^m$]. **Sarangani** (S of Mindanao). Earthquake of intensity III.

22, $4^h\ 30^m\ 38^s$* [22, $12^h\ 30^m\ 38^s$]. **Northeastern Mindanao.** Earthquake of intensity V–VI, felt throughout a great part of the Agusan Valley and the Surigao Peninsula, and registered by all the seismographs of the Far East. Its epicenter seems to have been the same which we assigned for the earthquake of the 8th.

25, $14^h\ 2^m\ 40^s$* [25, $22^h\ 2^m\ 40^s$]. **Agusan Valley** (E of Mindanao). Earthquake of intensity V. Since it was felt with equal force at Talacogon and Butuan, its point of origin was probably identical with the one from which proceded the disturbances of the 17th and 19th. It was recorded in Formosa and at Zikawei.

26, $13^h\ 5^m$ [26, $21^h\ 5^m$]. **Atimonan** (E of Luzon). Oscillatory earthquake. Direction E–W, intensity III, duration 4 seconds.

26, $22^h\ 25^m$ [27, $6^h\ 25^m$]. **Sarangani** (S of Mindanao). Earthquake of intensity IV.

27, $12^h\ 23^m\ 9^s$* [27, $20^h\ 23^m\ 9^s$]. **Western Luzon.** Earthquake of intensity III which was reported by the stations of Dagupan and Baguio. It evidently originated in the well known seismic center situated in the northern part of Pangasinan Province.

30, $7^h\ 39^m\ 0^s$* [30, $15^h\ 39^m\ 0^s$]. **Samar, Leyte, and southeastern Luzon.** Earthquake of intensity V whose origin lay to the north of Samar Island, near meridian 125° E and parallel 13.5° N. It was perceptible over a region measuring more than 500 kilometers in the

direction NNW–SSE and about 200 kilometers from WSW–ENE. We must suppose that within the epicentral region it was of much greater intensity than the one mentioned, since the latter corresponds to the Catanduanes Islands, at a distance of over 70 kilometers. The location of the origin coincides with the northwestern slope of the northern end of the great submarine trough which lies east of Mindanao and the Visayas.[1] This earthquake has been registered at all the Observatories in the Far East.

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Mean Greenwich. Midnight=0 h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T_0=7, ϵ=3.6; A_E: T_0=7, ϵ=3. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. *m.* *s.*				
44	3	I_d	eP	0 08 12				
			eL	08 26				
			M_N	08 28	1	8		
			F	11				
45	3	I_d	iL	17 52 22				
			F	54				
46	6	I_r	e	11 41 00				Off the north coast of Samar.
			F	49				
47	7	I_r	eP	4 44 00				Northeast of Mindanao.
			eS	45 26				
			L	46 51				
			M_N	47 59	8	4		
			F	5 12				
48	8	I_r	eP	1 08 28	1–2			Northeast of Mindanao.
			eS	10 05	3–4			
			eL	11 42	4–5			
			M_N	12 32	9–10	11		
			F	41				
49	8	I	eP	8 20 30				
			iL	21 50				
			M_N	21 54	3–4	78		
			F	42				
50	8	I_d	eP	15 41 40				
			iL	41 57				
			M_E	42 28	3		15	
			F	47				
51	8	I_r	eP	23 20 44				Northeast of Mindanao.
			F	37				
52	10	I_d	eP	17 51 13				
			eL	51 35				
			M_N	51 40	3	7		
			F	54				
53	11	I_r	e	10 09 12				
			F	34				
54	11	II_r	eP	15 34 33				Northern part of Agusan Valley.
			eS	36 07				
			iL	37 31				
			M_N	38 33	9	46		
			M_E	38 47	7		29	
			F	16 27				
55	14	I_r	eP	6 26 26				Agusan Valley.
			eL	28 52				
			M_N	30 08				
			F	7 44				
56	14	I_r	eP	7 46 00				
			F	8 20				
57	16	I_d	eP	8 45 55				
			eL	46 25				
			M_N	46 39	1-2	15		
			M_E	46 39	2-3		30	
			F	51				
58	16	I_r	e	13 06 ±				Northern part of Agusan Valley.
			F	14 00				

[1] See "Seismological Bulletin for August, 1910", pp. 279–291.

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
59	17	I_r	eP	15 25 08				Northern part of Agusan Valley.
			eS	26 37	5–6			
			iL	27 48	6–7			
			M_N	29 00	7–8	25		
			F	16 25				
60	19	I_d	eP	11 11 00				
			L	11 13				
			M_E	11 16	3		11	
			F	14				
61	19	I_r	e	14 02 ±				Northern part of Agusan Valley.
			F	12				
62	19	I_r	e	15 51 ±				Northeast of Mindanao.
			F	16 02				
63	21	I_d	e	15 59 00				
			F	16 08				
64	22	I_r	eP	4 30 38				Northeast of Mindanao.
			eS	32 23	4–5			
			eL	34 18				
			M_N	34 46	10	54		
			M_E	35 51	8–9		36	
			F	5 45				
65	24	I_r	e	12 23 42				
			F	54				
66	25	I_r	eP	4 59 00				
			eL	5 06 44				
			M_N	06 55	5	22		
			F	43				
67	25	I_r	eP	14 02 40				Agusan Valley.
			eS	04 17				
			eL	05 46				
			M_N	06 36	11	17		
			F	49				
68	26	I_r	e	6 20 22				
			F	42				
69	27	II_r	eP	12 23 09				Western Luzon.
			iL	23 28				
			M_E	25 00	4		467	
			M_N	25 05	3–4	245		
			F	35				
70	27	I_d	e	21 40 00				
			F	42				
71	29	I_d	e	2 55 54				
			F	3 01				
72	30	II_r	eP	7 39 00				Off the northern coast of Samar.
			eL	39 55				
			M_E	40 23	3		478	
			M_N	41 49	3	322		
			F	8 33				
73	31	I	e	10 14 39				
			F	21				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

1, $3^h\ 53^m$ [1, $11^h\ 53^m$]. **Dapitan** (NW de Mindanao). Temblor oscilatorio. Dirección S–N, intensidad III–IV, duración 4 segundos.

2, $4^h\ 45^m$ [2, $12^h\ 45^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III.

3, $5^h\ 57^m$ [3, $13^h\ 57^m$]. **Valle del Agusan** (E de Mindanao). Temblor de tierra de intensidad V y de larga duración. Su origen se hallaba hacia el centro del valle, y debió ser perceptible a una distancia de más de 100 kilómetros en la dirección N–S.

6, $11^h\ 41^m$* [6, $19^h\ 41^m$]. **Laoang** (N de Samar). Temblor oscilatorio. Dirección N–S, intensidad IV, duración 8 segundos.

7, $4^h\ 44^m\ 0^s$* [7, $12^h\ 44^m\ 0^s$]. **NE de Mindanao.** Temblor de tierra de intensidad V. El epicentro parece poder colocarse en la parte N del valle del Agusan, donde hubo después dos repeticiones de intensidad III a $5^h\ 4^m$ y $5^h\ 14^m$ [$13^h\ 4^m$, $13^h\ 14^m$]. Hacia el Sur, en Talacogon, no se notaron estas repeticiones, pero en cambio se había ya sentido allí un temblorcito de intensidad III a $0^h\ 24^m$ [$8^h\ 24^m$].

8, $1^h\ 8^m\ 28^s$* [8, $9^h\ 8^m\ 28^s$]. **Valle del Agusan** (E de Mindanao). Temblor de tierra de intensidad IV, originado en el mismo epicentro que el anterior, en la parte N del valle. En la estación de Butuan que parece estar muy cerca al W del epicentro, se observaron movimientos susultorios o verticales, y oscilaciones muy rápidos en diferentes direcciones, que producían la impresión de movimiento rotatorio: su duración no pasó de 10 segundos. Fué registrado en Manila y Zikawei.

8, $23^h\ 20^m\ 44^s$* [9, $7^h\ 20^m\ 44^s$]. **NE de Mindanao.** Temblor de tierra de intensidad VI. El epicentro de este y de otros temblores sentidos este mes en la parte N del valle del río Agusan parece estar localizado muy cerca de la desembocadura de dicho río. Así se deduce de las notas recibidas de diferentes estaciones del NE de Mindanao. En Butuan, situado en la orilla occidental del río y a unos 10 kilómetros de su desembocadura, se experimentaron movimientos muy fuertes, principalmente en las direcciones ENE–WSW y E–W; la impresión era de que procedían del otro lado del río. Sintióse con intensidad III en Surigao que dista unos 90 kilómetros al N del supuesto epicentro. Tuvo la misma intensidad III en Talacogon que dista unos 70 kilómetros hacia el Sur. Parece por consiguiente indudable que la región pleistoseista se extendía de N a S, a lo largo de los bancos y las costas orientales de la desembocadura del Agusan, formando una elipse muy prolongada.

10, $17^h\ 35^m$ [11, $1^h\ 35^m$]. **Butuan** (N de Mindanao). Temblor de tierra de intensidad III, duración 2 segundos.

11, $15^h\ 34^m\ 33^s$* [11, $23^h\ 34^m\ 33^s$]. **Butuan** (N de Mindanao). Temblor oscilatorio y susultorio. Dirección ENE–WSW, intensidad IV, duración 8 segundos. Este temblor a pesar de su poca intensidad y extensión fué al parecer registrado por los seismógrafos de Formosa y Zikawei.

11, $23^h\ 50^m$ [12, $7^h\ 50^m$]. **Talacogon** (Valle del Agusan). Temblor de tierra de intensidad IV y larga duración.

12, $2^h\ 11^m$ [12, $10^h\ 11^m$]. **Tacloban** (NE de Leyte). Temblor oscilatorio; dirección N–S, intensidad II–III.

12, $6^h\ 25^m$ [12, $14^h\ 25^m$]. **Borongan** (E de Samar). Temblor de tierra de intensidad III, duración 4 segundos.

[1] La intensidad de los terremotos se indica conforme a la conocida escala de De Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

12, $6^h\ 30^m$ [12, $14^h\ 30^m$]. **Butuan** (N de Mindanao). Temblor oscilatorio y susultorio. Dirección ENE–WSW, intensidad III, duración 8 segundos.

14, $6^h\ 26^m\ 26^s$* [14, $14^h\ 26^m\ 26^s$]. **Valle del Agusan** (E de Mindanao). Temblor de tierra de intensidad IV. El epicentro de este temblor se hallaba probablemente en el centro del valle; sintióse en Butuan y Talacogon casi con la misma intensidad; pero en Talacogon hubo una repetición a $7^h\ 56^m$ [$15^h\ 56^m$], no notada en Butuan. Registróse en Formosa y Zikawei.

16, $13^h\ 6^m$* [16, $21^h\ 6^m$]. **Butuan** (N de Mindanao). Temblor oscilatorio. Dirección ENE–WSW, intensidad III, duración 4 segundos.

17, $15^h\ 25^m\ 8^s$* [17, $23^h\ 25^m\ 8^s$]. **Valle del Agusan** (E de Mindanao). Temblor de tierra de intensidad V–VI, sentido en todo el valle. Su epicentro se hallaba probablemente en la parte N del valle, entre Butuan y Talacogon. En ambas estaciones se notaron dos repeticiones de intensidad III a $15^h\ 28^m$ y $15^h\ 32^m$ [$23^h\ 28^m$, $23^h\ 32^m$]. En Talacogon se sintió además otro temblor de intensidad IV a $19^h\ 10^m$ [$3^h\ 10^m$ del día 18]. El temblor principal del 17 fué registrado en Formosa y Zikawei.

19, $14^h\ 2^m$* [19, $22^h\ 2^m$]. **Valle del Agusan** (E de Mindanao). Temblor de tierra de intensidad V, sentido en todo el valle. Su epicentro parece fué el mismo del anterior.

A $15^h\ 51^m$* [$23^h\ 51^m$] sintióse en Butuan y en Surigao otro temblor de tierra de intensidad IV, el cual como no fué perceptible en Talacogon, es presumible que procedía del epicentro señalado el día 8, cerca de la desembocadura del río Agusan.

20, $17^h\ 20^m$ [21, $1^h\ 20^m$]. **Aparri** (NE de Luzón). Temblor oscilatorio de intensidad III, dirección N–S.

21, $4^h\ 30^m$ [21, $12^h\ 30^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III.

22, $4^h\ 30^m\ 38^s$* [22, $12^h\ 30^m\ 38^s$]. **NE de Mindanao.** Temblor de tierra de intensidad V–VI, sentido en gran parte del valle del río Agusan y en la península de Surigao. Su epicentro parece ser el mismo que se indicó para el temblor del día 8. Este temblor fué registrado en todo el Extremo Oriente.

25, $14^h\ 2^m\ 40^s$* [25, $22^h\ 2^m\ 40^s$]. **Valle del Agusan** (E de Mindanao). Temblor de tierra de intensidad V. Sintióse en Talacogon con la misma intensidad que en Butuan; es pues probable que su epicentro se hallaba en las cercanías del indicado para los temblores del 17 y 19. Fué registrado en Formosa y Zikawei.

26, $13^h\ 5^m$ [26, $21^h\ 5^m$]. **Atimonan** (E de Luzón). Temblor oscilatorio. Dirección E–W, intensidad III, duración 4 segundos.

26, $22^h\ 25^m$ [27, $6^h\ 25^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad IV.

27, $12^h\ 23^m\ 9^s$* [27, $20^h\ 23^m\ 9^s$]. **W de Luzón.** Temblor de tierra de intensidad III, sentido en las estaciones de Dagupan y Baguio. Su origen seguramente se hallaba en el conocido centro seísmico de Pangasinán, situado al N de esta provincia.

30, $7^h\ 39^m\ 0^s$* [30, $15^h\ 39^m\ 0^s$]. **Samar, Leyte, y SE de Luzón.** Temblor de tierra de intensidad V, cuyo origen se hallaba al N de la isla de Samar, cerca del meridiano 125° E y del paralelo 13.5° N. Fué perceptible en una extensión de más de 500 kilómetros en la dirección NNW–SSE, y de unos 200 en la WSW–ENE. Es de suponer que en el epicentro tuvo mucha mayor intensidad que la indicada al principio, la cual corresponde a Catanduanes distante de él más de 70 kilómetros. La situación del epicentro coincide con la pendiente NW del extremo septentrional de la gran fosa marina del E de Mindanao y de Visayas.[1] Este Temblor fué registrado en todos los Observatorios del Extremo Oriente.

[1] Véase el Seismological Bulletin for August, 1910, pgs. 279–291.

BULLETIN FOR APRIL, 1912.

METEOROLOGICAL BULLETIN FOR APRIL, 1912.

By Rev. JOSÉ CORONAS, S. J.,

Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure for the month of April was throughout the Philippines considerably higher than during the same month of the preceding year, the differences in many instances exceeding 2 millimeters. At Manila, the monthly mean surpassed the normal for the month by 1.23 millimeters, and the mean for April, 1911, by 2.04 millimeters. The days of maximum pressures were the 12th and 13th, while the lowest were observed on the 30th.

The mean monthly temperature was likewise higher than last year, the greatest differences amounting to as much as 2°C at San Isidro, Nueva Ecija, and even 2.3°C at Tuguegarao. The more remarkable maximum temperatures recorded during the month are the following: 42.2° and 41.3°C at Tuguegarao, Cagayan Valley, observed on the 29th and 30th respectively; 39.8°, 40.1° and 39.9°C at Echague, Isabela, on the 28th, 29th, and 30th; 39.6° and 39°C at San Isidro, Nueva Ecija, on the 10th and 29th; and 39.3° and 39°C at Dagupan, Pangasinan, the former on the 23d, the latter on the 22d and again on the 27th.

Though the mean temperature at Manila exceeded the same value for April, 1911, by 1°C, it nevertheless remained 0.2° below the normal for the month. Truly remarkable were the last 11 days of the month on account of the high readings reached by the thermometers. On none of these days did the maximum remain below 36°C, and on three, to wit, the 27th, 29th, and 30th, it reached the—for Manila abnormal—heights of 37.4° and 37.5°C. Since, however, the nights were generally clear, the daily minima were usually rather low and, consequently, the monthly mean temperature results only slightly different from the normal for April, as stated before.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS FOR APRIL 1912.

Station.	Pressure.						Temperature.					
	Mean.	Departure from April, 1911.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from April, 1911.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		*°C.*	*°C.*	*°C.*		*°C.*	
Tagbilaran[a]	760.12		762.52	13	757.65	30	26.8		35.1	25		
Cebu	60.08	+ 1.92	62.61	13	57.77	30	28.1	+ 0.7	33.2	26	23	2
Iloilo	59.88	+ 1.60	62.44	13	57.41	30	28.5	+ 1.3	35.1	28,30	23.1	13
Ormoc	60.39	+ 2	63.08	13	58.11	30	26.8	+ .9	34.5	21	19.2	12
Tacloban	60.66	+ 1.87	63.28	13	58.32	30	27.2	+ .4	34.8	6	22.4	12
Capiz	60.52	+ 1.93	62.98	13	57.71	30	27.7	+ .5	35.3	23	22.3	1
Calbayog	60.64	+ 2.15	63.16	13	58.28	30	26.2	— .1	36.4	22	20	6
Legaspi	60.98	+ 2.39	63.68	13	58.49	30	28.1	+ .9	34.9	9	18.9	8
Atimonan	60.97	+ 2.21	63.68	13	57.96	30	27.7	+ .7	33	30	21.9	15
Paracale	61.30	+ 2.45	64.05	13	58.42	30	27.4	+ .4	33.8	20	21.9	18
Manila	60.63	+ 2.04	63.40	13	57.60	30	28	+ 1	37.5	29	19.2	9
San Isidro	60.80	+ 2.32	63.81	13	57.69	30	28.9	+ 2	39.6	10	19	2
Dagupan	60.06	+ 1.82	62.65	13	57.12	30	28.9	+ 1.2	39.3	23	21.6	5
Bolinao	60.25	+ 2.03	62.57	13	57.78	30	29	+ 1.5	36.2	21	22.4	4
Baguio[b]	638.17	+ 1.84	640.14	13	636.22	30	19.3	+ 1.1	28.8	27	13.2	1
Vigan	760.38	+ 2.11	762.91	13	757.60	30	28.3	+ .6	35.5	10	22.7	2
Tuguegarao	60.97	+ 2.04	64.63	12	57.46	30	28.6	+ 2.3	42.2	29	18.8	2
Aparri	60.92	+ 1.57	65.20	12	57.54	30	26.5	+ .1	35	24	19.8	2

[a] 25 days of observation only.
[b] The barometric readings of this station are not reduced to sea level.

Precipitation.—As regards the dearth of rain in the Archipelago, April was a fit continuation of March, as is shown convincingly by the subjoined table. Only two stations, Davao and Calbayog, report a rainfall greater than the normal for the month. If we compare the precipitation during the month with that during April, 1911, we find that only Davao and Butuan show positive differences. Manila had only one rainy day in the entire month, and even on this the total amounted to not more than 0.8 millimeters. This amount is 31.4 millimeters below the normal for the month and 106.0 millimeters less than the total for April of the preceding year. Of the 47 years during which Manila Observatory is in existence, only 6 had a smaller rainfall during April than the present.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF APRIL, 1912.

Station.	Total.	Departure from April, 1911.	Departure from normal.	Rainy days.	Departure from April, 1911.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from April, 1911.	Departure from normal.	Rainy days.	Departure from April, 1911.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*	*mm.*			*mm.*			*mm.*	*mm.*	*mm.*			*mm.*	
Jolo[a]	103.2					52.1	13	Sumay, Guam	29.1	— 6.7		11	— 6	9.1	16
Isabela, Basilan	32.3	—141.2?		7	— 7	10.9	22	Calapan	67.5	—184.2	— 94	11	— 5	20.8	28
Zamboanga	27.4	— 7.5	— 5.8	4	— 2	17.2	15	Virac	120.7	— 60.1		15	+ 2	38.9	11
Davao	268.5	+ 70.1	+ 79.9	9	— 3	58.4	20	Nueva Caceres	12.5	—156.5	— 81.5	4	— 7	6.1	28
Cotabato	140.9	—133.4	— 21.1	14	— 4	52.1	8	Batangas	0	—162.4		0	— 7	0	0
Cagayan, Misamis	9.7			3		7.9	28	Atimonan	10	—273.5		8	— 6	3.8	11, 28
Butuan	97.6	+ 33.6	+ 7.2	17	+ 3	26.4	10	Silang	13.2			5		4.1	1
Dumaguete	.5	— 29.2?		1	— 8	.5	28	Paracale	32.6	—117.1?		10	— 4	9.2	27
Yap, W. Carolines	79.3	— 89.1		18	— 2	19.6	4	Sta. Cruz, La Laguna	9.1	— 71.3		6	— 5	3	28
Tagbilaran[b]	57.5					32.3	27	Manila	.8	—106	— 31.4	1	— 8	.8	13
Surigao	121.1	— 7.3	—130.5	22	+ 7	30.4	10	Antipolo	6.4	—188.1		3	— 8	4.1	7
Maasin	44.4	—141.2	— 19.6	4	— 3	13.2	4	Iba	23.9	—122.9		2	— 5	22.9	30
Cebu	25.1	— 16.8	— 9	3	— 7	20.6	27	San Isidro	12.7	— 85.8	— 20.4	1	—12	12.7	29
Iloilo	4.6	—101.7	— 35.8	1	—12	4.6	11	Tarlac	49	— 67.1	— 17.9	3	— 6	44.2	30
San Jose Buenavista	9.7	— 51.9		3	—12	6.6	11	Baler	148.9	—184.3		21	+ 4	25.9	3
Cuyo	7.7	— 42.6		2	— 4	6.4	30	Dagupan	10.5	—176.1	— 55.3	3	— 7	5.1	16, 27
Ormoc	34.5	— 46.8	— 31.6	8	— 4	7.4	9	Bolinao	3.8	96	— 24.9	1	— 7	2.5	16
Guiuan	57.1			16		14.5	10	Baguio	8	—238.4	—110.6	5	—10	5.1	7
Tacloban	121.4	— 65		13	— 7	28.4	7	San Fernando, Union	7.6	— 73.8	— 9.7	2	— 2	6.1	25
Capiz	8.4	—145.2	— 47.1	3	—11	7.9	11	Echagüe	12.5	—262.2		4	—13	6.1	6
Borongan	152.1	—284	— 86.5	19	— 3	45.7	26	Candon	0	— 64		0	— 4	0	0
Calbayog	122	+ 96.9	+ 15	9	— 5	47	11	Vigan	0	—105.3	— 20.8	0	— 6	0	0
Masbate	9.2	— 61.6		3	— 4	5.4	27	Tuguegarao	7.4	—176.5	— 63	2	—10	4.6	30
Romblon	16.6			6		8.9	13	Laoag[a]	0			0		0	0
Laoang	77.3			13		31.8	27	Aparri	27.6	—107	— 14.4	2	—12	23.6	12
Gubat	88.1			12		28.5	27	Sto. Domingo, Batanes	80.5	— 36.2		10	— 2	25.6	5
Legaspi	105.6	—281.4	— 64.4	11	— 6	27.9	28								

[a] 22 days of observation only.

[b] 25 days of observation only.

DEPRESSIONS AND TYPHOONS.

During April, the Observatory announced only a single typhoon which considerably affected the Western Carolines, but filled up before its influnce was felt in the Philippines. The 6 a. m. observations made at Guam and Yap on the 4th point clearly to the existence of a cyclonic center to the southeast of Yap. But the Observatory did not announce it until the afternoon of that day, when the first dispatches from Yap had arrived. The following notice was then cabled to Tokyo, Zikawei, Taihoku, Hongkong, and Phulien:

April 4, 3.30 p. m.: Typhoon south of Yap, Western Carolines; direction unknown.

That the typhoon passed really south of Yap, is evident from the winds which at that station veered from north to northeast and east-southeast, while at Guam they came from easterly directions and at Palau, Pelew Islands, from the fourth quadrant. The barograph at Yap registered a barometric minimum of 753.4 millimeters at 4.30 p. m. of the 4th, and the winds attained there force 9 of the Beaufort scale at 6 p. m. of the same day.

According to all indications this typhoon filled up on the 6th while it was to the north of the Pelew group. On the 5th and 6th Manila sent the following typhoon warnings to the Meteorological Centers mentioned:

April 5, 5.15 p. m.: Typhoon near or over the Pelew Islands, moving west or west-northwest.
April 6, 4.15 p. m.: Typhoon near or over the Pelew Islands, filling up.

Zikawei Observatory informed the stations on the Chinese coast of the whereabouts of this typhoon by means of the following dispatches:

April 4, 4.20 p. m.: Typhoon Yap, south to west, any distance, moving northwest.
April 5, 9.45 a. m.: Typhoon Yap, north to west, beyond 240 miles, moving west-northwest or NW by W.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes resulta para todas las estaciones de Filipinas bastante superior a la del año pasado, llegando a ser la diferencia en muchos casos mayor de 2 mm. La media mensual de Manila difiere de la normal en +1.23 mm., y de la media de Abril, 1911, en +2.04 mm. Los días de presiones más altas en Filipinas fueron el 12 y el 13. Las menores presiones se observaron el día 30.

La temperatura media mensual es también mayor que la del año pasado, correspondiendo a San Isidro de Nueva Écija y a Tuguegarao las diferencias máximas de 2°C y 2.3°C. Llamamos la atención sobre las siguientes máximas temperaturas de este mes: 42.2°C y 41.3°C para Tuguegarao, en el valle de Cagayán, los días 29 y 30 respectivamente; 39.8°C, 40.1°C y 39.9°C para Echague, en la Provincia de La Isabela, los días 28, 29 y 30; 39.6°C y 39.0°C para San Isidro, en Nueva Écija, los días 10 y 29; y 39.3°C y 39.0°C para Dagupan, Pangasinán, habiendo tenido lugar la primera el día 23, y la segunda los días 22 y 27.

La media de Manila, aunque es superior a la de Abril, 1911, en 1°C, con todo, comparada con la normal de este mes le es inferior en 0.2°C. Fueron verdaderamente notables los últimos 11 días del mes por las altas lecturas que alcanzaron en ellos los termómetros de este Observatorio. Ninguna de las máximas diarias de este período fué menor de 36°C; y en tres días, es decir, el 27, 29, y 30, se registraron máximas tan notables como 37.4° y 37.5°C. Sin embargo, como las noches eran generalmente despejadas, las temperaturas mínimas fueron en general bastante bajas, y de ahí que la temperatura media mensual apenas se diferencie de la normal, según acabamos de indicar arriba.

Precipitación acuosa.—Este mes de Abril fué digna continuación del anterior por lo que toca a la falta de lluvia en Filipinas. La tabla que acompaña el texto inglés muestra esta verdad de la manera más convincente. Solo dos estaciones, Dávao y Calbayog, nos dan un total de lluvia mayor que la normal de este mes. Cuanto a la diferencia entre la lluvia de este año y la de Abril del año próximo pasado, Dávao y Butúan son las únicas estaciones que aparecen con una diferencia positiva. En Manila no hubo en todo el mes más que un día de lluvia y aun en él no se recogieron más de 0.8 mm. de agua. Esta cantidad difiere de la normal de este mes en —31.4 mm., y del total de Abril del año pasado en —106.0 mm. En los 47 años que lleva de existencia este Observatorio solo seis veces se registró en Abril menos cantidad de agua que este año.

DEPRESIONES Y TIFONES.

El Observatorio anunció este mes un solo tifón, el cual se dejó sentir bien en las Carolinas Occidentales, pero se deshizo antes de sentirse su influencia en Filipinas. Las observaciones hechas en Guam y Yap a 6 a. m. del día 4 indicaban claramente la existencia de un centro ciclónico hacia el SE de la segunda estación. Sin embargo, el Observatorio de Manila no lo anunció hasta la tarde del mismo día cuando se recibieron los primeros telegramas de Yap. El aviso de tifón enviado entonces a Tokio, Zikawei, Taihoku, Hongkong y Phulien es como sigue:

Día 4, 3.30 p. m.: Tifón al S de Yap, Carolinas Occidentales, dirección desconocida.

Efectivamente, que el baguio pasó por el S de Yap es evidente por los vientos que rolaron en aquella estación del N al NE y ESE, en tanto que soplaban en Guam de la parte del E y en Palaos del 4° cuadrante. El barógrafo de Yap registró su mínima lectura 753.4 mm. a las 4.30 p. m. del día 4, y los vientos alcanzaron allí la fuerza 9 de la escala de Beaufort a las 6 p. m. del mismo día.

Según todas las apariencias, este baguio se deshizo el día 6 al N de Palaos. El Observatorio envió los días 5 y 6 estos avisos de tifón a los centros meteorológicos indicados arriba.

Día 5, 5.15 p. m.: Tifón en, o cerca de, las Islas Palaos, moviéndose al W o WNW.
Día 6, 4.15 p. m.: Tifón en, o cerca de, las Islas Palaos, rellenándose.

El Observatorio de Zikawei anunció también este tifón a las estaciones de la costa de China con estos telegramas:

Día 4, 4.20 p. m.: Tifón entre el S y W de Yap, moviéndose al NW.
Día 5, 9.45 a. m.: Tifón entre el N y W de Yap, distancia mayor de 240 millas, moviéndose al WNW o NW 1/4 W.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[a]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure (mean).	Air temperature.[b] Mean.	Maximum.	Minimum.	Underground temperature. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity (mean).	Vapor pressure (mean).	Evaporation.[b] Free exposure (total).	Shelter (total).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	*Per ct.*	*mm.*	*mm.*	*mm.*
1	761.30	26.7	34.2	22.3	27.4	29.8	28.9	29.2	28	27.9	60.8	15.4	7.4	6.7
2	61.45	26.1	32.2	20.7	27.3	29.2	28.8	29.1	27.9	27.8	66.9	16.6	5.9	4.4
3	61.18	26.7	34.9	20.5	27	29.8	28.6	29.2	28	28	64	16.2	8.5	7.6
4	60.36	27.4	35	21.1	27.3	29.8	28.6	29	28	27.9	61.8	16.4	7.4	5.7
5	60.06	27.4	35.4	20.6	27.7	31.7	28.7	29.3	28.1	27.9	64.1	17.1	8.1	5.6
6	60.48	27.5	34.8	22	28.8	32.2	29.4	30.2	28	28	65	17.4	7.2	5.5
7	60.93	26.6	32.5	21	29	30.7	29.8	30	28	27.9	68.1	17.5	5.3	4.1
8	60.64	27.1	35.1	21.4	28.2	30.9	29.6	29.8	28	27.9	66.6	17.4	7.1	5.6
9	61.02	27.1	35.5	19.2	27.4	30.8	29.2	29.5	28.1	28	65.7	17.1	7.4	5.7
10	61.77	28.2	35.2	22.4	28.2	31	29.3	29.7	28.1	28	66.8	18.7	6.8	5.2
11	62.18	28.5	35.7	22.8	28.9	31.1	29.7	30	28.2	28.1	64.7	18.3	7.3	5.6
12	62.52	28.6	35.4	22.9	28.9	31	29.8	30.1	28.1	28	66.5	19	7.6	5.8
13	63.40	27.6	35	22.8	28.9	30.3	30	30.2	28.2	28	65.4	17.6	6.9	5.7
14	62.82	27.3	34.2	21.2	28	30.4	29.6	29.9	28.3	28.1	65.7	17.4	7.2	5.7
15	61.71	27.2	34.7	21.1	28.1	30.5	29.7	29.9	28.3	28	64.3	16.7	7	5.7
16	61.26	27.3	35.5	20.4	28	31	29.5	29.8	28.3	28	64.2	16.9	8.1	6.2
17	61.29	26.9	34	20.8	28.3	29.9	29.5	29.8	28.4	28	63	16.3	6.4	5.3
18	60.86	27.9	35.4	22	27.6	31.5	29	29.8	28.4	28	55.9	15.1	10.6	6.8
19	60.47	28	35.2	21.5	28.2	30.8	29.4	29.8	28.6	28	57.6	15.8	7.8	6
20	60.20	28.1	36	21.4	28.6	31.2	29.4	30	28.5	28.2	59.6	16.5	8.8	6.4
21	59.89	28.9	36.4	21.6	29.2	32.4	29.8	30.4	28.4	28.3	57.4	16.6	10.7	8.3
22	59.95	29.2	37	21.1	29.8	33.2	30.1	30.8	28.6	28.1	58.5	17	9.8	7.7
23	59.48	29.6	36.8	24.4	29.8	32.5	30.4	31	28.6	28.4	58.5	17.4	10.7	8.2
24	59.17	28.6	36.4	22.3	30	33.7	30.4	31.1	28.7	28.2	62.1	17.8	9.1	7
25	59.12	28.7	36	22.7	30.6	34	30.8	31.5	28.7	28.3	57.1	16.2	10.4	8
26	59.59	28.1	36	20.4	30.8	34.1	31	31.6	28.8	28.3	60.1	16.6	8.9	6.7
27	59.97	28.9	37.4	22.8	31.3	34.4	31.4	32.2	28.8	28.4	56.1	16.1	9.9	7.9
28	59.67	28.2	36.9	21.3	31	34.5	31.5	32	28.8	28.2	63.1	17.6	9	6.5
29	58.66	30.1	37.5	25	32.1	35.3	31.8	32.5	29	28.5	62.7	19.5	9.1	6.9
30	57.60	30.3	37.4	25.3	32.3	35.3	32.2	32.5	29.1	28.5	63.6	19.8	9.1	7.1
Mean	760.63	28	35.5	21.8	29	31.8	29.9	30.3	28.4	28.1	62.5	17.1	8.2	6.3
Total													245.5	188.6
Departure from normal	+1.23	—0.2	+1.7	—1							—7.1	—2.3		

Date.	Wind. Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Sunshine.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	*Km.*		*0–10.*			*h. m.*	*mm.*	
1	E quad.	245	22	ESE	5.7	A.-Cu.	Cu. E	4 30		≡ a.
2	E quad.	186	23	SE	7.6	Ci., A.-Cu.	Cu. E	3 45		
3	SE quad.	286.5	28.5	SE	4.5	A.-Cu.	Cu. E	9 00		
4	E quad.	251.5	21	E	4.7	A.-Cu.	Cu. E	7 25		
5	W, ESE	199.5	17.5	WSW	1.8	Ci.-S.	Cu. E	10 25		
6	SE, WSW	178	24	SE	3.1	Ci.	Cu.	9 05		
7	SE quad.	162	15	SEbyS	7	A.-Cu. NE	Cu., S.-Cu. EbyN	3 25		
8	SE quad.	222	25	SE	4.2	A.-Cu., Ci.	S.-Cu. E	7 40		≡ a.
9	W quad.	190	17	WNW	2.8	Ci.	Cu.	9 30		
10	SE quad.	233	17	S	3.6	Ci.	Cu. NE	9 25		
11	SE quad.	211	19.5	SSE	3.1	Ci.	Cu. NE	8 40		
12	SE quad.	241	26	SEbyS	4.8	A.-Cu.	Cu. NE	8 00		≡° a.
13	E quad.	290	27	ESE	7	A.-Cu.	Cu. E	4 45	0.8	◠ ●° a.
14	E quad.	260.5	26	ESE	7.7	A.-Cu.	S.-Cu. ENE	3 45		
15	E quad.	223	21	ESE	8.1	A.-Cu.	N.-cf. E	2 40		d° a.
16	E quad.	237.5	25.5	SE	2.8	Ci.	Cu., Fr.-Cu. EbyN	10 05		
17	E quad.	182.5	20	SEbyE	6.2	A.-Cu.	S.-Cu. E	6 25		d° a. p.
18	SE quad.	208.5	18.5	SE	4.4		Cu. E	8 00		≡° a.
19	E quad.	200.5	16	SE	3.2		Cu. E	8 10		
20	E quad.	215	19.5	E	3.5	A.-Cu.	Cu. E	8 05		
21	ESE	331	31	SE	1.8		Cu.	10 50		
22	ESE	287	22	ESE	2.1		Cu. ESE	10 55		≡ a.
23	SE, ESE	323.5	27	SE	1.2		Cu. E	10 50		
24	E quad.	335.5	29	ESE	2.2		Cu. ENE	10 25		
25	E quad.	345	32	SE	1.8	Ci.	Cu. E	10 55		
26	E quad.	209.5	19	WbyN	1.5		Cu.	10 55		
27	E quad.	306	31	SE	1.9	Ci.	Cu.	10 35		
28	E quad.	282	26	SE	3	A.-Cu.	Cu. ESE	10 25		
29	ESE	277	22.5	SEbyE	3.1	A.-Cu., Ci.-S.	Cu.	9 25		
30	SE	238	17	ESE	3.9	Ci.	Cu.	10 50		
Mean		245.2	22.8		3.9			8 18		
Total								248 50	.8	
Departure from normal		+8.9			—0.1			—14 38	—31.4	

[a] All the mean values given in this table are deduced from hourly observations.
[b] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[a]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 26.2 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.21	26	32.3	.....	81.2	SE quad.	0.8	4.3	Ci., Ci.-S.	Cu. E	.....	
2	60.46	26	33.3	.....	81.3	SE, E	.5	4.8	Ci.-S.	Cu. E	2.5	●° p.
3	60.33	25.5	31.6	.....	83	SE, S	.7	2.8	Ci.-S., Ci.	Fr.-Cu., Cu. E	.....	
4	59.89	25	31.1	.....	89.3	SSE	.5	8	A.-Cu. E	Cu. E quad.	4.1	●° p.
5	59.68	26.1	31.9	.....	84.8	NE	.2	5.7	Ci.-S.	Cu. E	.....	
6	59.95	26	31.6	.....	87	NE, S	1	3.5	Ci.	Fr.-Cu. E	.....	
7	60.40	26.4	33.6	.....	86.2	SE, S	.8	2.7	Ci.	Cu.	.....	
8	60.34	26.9	33.6	.....	84.8	SE	.7	4.2	Ci.	Cu. E	.....	
9	60.57	27.5	32.9	.....	83.3	SSE, S	.8	3.2	Ci.	Cu. E, SE	.....	
10	61.25	26.8	34.7	.....	87.5	SE quad.	.8	4.8	Ci.	Cu. E, SE	2.8	●° p.
11	61.42	26.9	33.3	.....	87.3	NE, E	.3	5.8	Ci.	Cu. SE, E	.....	≤° p.
12	62.21	26.5	33	.....	75.8	SE quad.	1.8	3.3	Ci.	Cu. NE	.....	
13	62.52	26.5	33.3	.....	79.5	SE quad.	.7	2	Ci.	Cu. NE	.....	
14	61.69	26.7	33.6	.....	81.5	S	1	5	Ci.-S.	Cu. SE	.....	
15	60.76	26.8	33.4	.....	78	S, SSE	.8	2.2	Ci.	Cu. E	.....	
16	60.81	26.5	33.3	.....	79.2	SSE, NNE	.8	1.5	Ci.	Cu. SE, NE	.....	
17	60.46	27	33.9	.....	77.3	NE, SE	.5	1.8	Ci.	Cu. E	.....	
18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
23	58.76	28.3	34.8	.....	75.3	SE quad.	1	2	Ci.	Cu. E	.....	
24	58.81	27.6	34	.....	79	SSE, NNW	.7	3.3	Ci.	Cu. SE	.....	
25	58.58	27.7	35.1	.....	76.8	E quad.	1.2	4.3	Ci.-S.	Cu. NE, E	.....	
26	59	27	34.8	.....	82.7	SSE, S	.7	6	Ci.-S.	Cu., Fr.-N. SE, E	15.8	●² p.
27	59.44	26.3	31.7	.....	92.7	S	.5	7.8	Ci.-S.	Cu. SE	32.3	●² a. ●° p.
28	59.27	27.4	32.8	.....	87.7	SE, NE	.3	4	Variable.	Cu. E, SE	.....	
29	58.58	28	33.7	.....	84.5	SE, NE	.7	2.8	Ci.	Cu. E	.....	⊽² p.
30	57.65	27.6	32.9	.....	83	SSE, S	.5	1.8	Ci.-S.	Cu.	.....	
Mean	760.12	26.8	33.2	.....	82.7	.....	.7	3.9	.....	.....	.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	57.5	

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.44	27	31.2	23.5	68.3	NE quad.	1.2	2.5	Ci.	Cu. E	.....	☊ a.
2	60.42	27.4	31.8	23	67	E	1.2	3.2	A.-Cu. NE	Cu. E	.....	☊ a. ⊽ p.
3	60.39	27.4	31.8	23.7	69.2	NE quad.	1	2.7	Ci.	Cu. E	.....	☊ a. ∞ p.
4	59.80	27.2	30.5	24.2	72.3	NE quad.	1.2	4.7	A.-Cu. E	S.-Cu. E, NE	.....	☊ a. ⊽ p.
5	59.35	28.1	31.9	24.1	67.7	E	.7	3.2	Ci.	Cu. ENE	.....	☊ a. ∞ p.
6	59.74	27.7	31.9	24.5	70.7	S, E	.5	3.3	Ci.-S. SE	Cu. ENE	.....	
7	60.10	27.5	31.5	23.5	71	NE, E	1	2.3	Ci.	Cu. ENE	.....	∞ p.
8	60.04	28.1	31.9	24.1	68.7	E	1	2.3	Ci.	Cu. E	.....	☊ a. ≤ p.
9	60.34	28.7	32.6	26	71.3	NE quad.	.7	3.2	Ci.	Cu. E	.....	☊ a. ≤ p.
10	61.22	28.9	32.2	26	73.7	NE	1.3	4.3	Ci.	Cu. E	2	☊ a. ⌈◪ p.
11	61.60	28.3	31.2	25.5	74	E	1.3	5.2	Ci.	Cu. E	.....	●° a. ⌈◪ a. p.
12	62.44	27.8	31.9	24.3	65.8	E	1.2	2.5	Ci.	Cu. E	.....	☊ a.
13	62.61	27.9	31.9	23.4	69.5	E	1.2	3	Ci.	Cu. E	.....	
14	61.82	27.7	31.3	24.5	71.8	E	1.3	3	Ci.	Cu. E	.....	
15	60.89	27.7	31.4	23.9	69	NE quad.	1	2.7	Ci.	Cu., S.-Cu. E	.....	
16	60.82	27.6	31.2	23.3	70.2	NE quad.	1.2	2.5	Ci.	Cu. E	.....	
17	60.76	27.6	31.8	23.7	71.3	E	1	2.5	Ci.	Cu. E	.....	☊ a. ∞ p.
18	60.53	28.2	31.9	24.3	70.7	NE quad.	1	2.7	Ci.	Cu. E	.....	∞ p.
19	60.19	28.6	32.4	25	70.5	NE, E	1	2.5	Ci.	Cu. E	.....	☊ a.
20	59.70	28.8	32.1	26.5	70.2	NE quad.	1.5	2.5	Ci.	Cu. E	.....	∞ p.
21	59	28.7	32	24.9	67.5	E	1.3	3.2	Ci.	Cu. E	2	
22	59.08	28.5	32.6	24.9	73.2	NE quad.	1.5	3.8	Ci.	Cu. E	.....	●° a, ∞ p.
23	59.09	28.5	32.8	25.4	69.3	NE, E	1.5	2.7	Ci.	Cu. E	.....	☊° a.
24	59.11	28.7	32.4	24.2	67.5	NE quad.	1.3	2.8	Ci.	Cu. E	.....	☊° a. ⊽ p.
25	58.69	28.6	32.6	25	68	NE quad.	1.3	2.5	Ci., A.-Cu.	Cu. E	.....	∞ p.
26	59.11	28.6	33.2	24.8	68.7	NE quad.	1	4.8	Variable.	Cu., Cu.-N. E	.5	≤ ⊽ ∞ p.
27	59.37	26.6	28.8	23.7	85.3	NE	.3	6.8	Ci.	Cu.-N. E	20.6	≡° ☊ ● a. ⌈◪ p.
28	59.13	28.4	32.8	24.5	78	E	1	3.5	Ci.	Cu. E	.....	☊ a. ⌈◪ p.
29	58.78	28.7	32.6	26.5	71.7	NE, E	.8	2.7	Ci.	Cu. E	.....	∞ p.
30	57.77	28.5	32.6	24.4	70.3	NE quad.	.7	2.5	Ci.	Cu. E	.....	∞ p.
Mean	760.08	28.1	31.9	24.5	70.7	.....	1.1	3.2	.....	.....	.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25.1	

[a] All the mean values given in these tables are deduced from six daily observations.

Meteorological data for first and second class stations—Continued.

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Lower.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*				*mm.*	
1	760.17	27.5	33	23.4	63	NE quad.	2.7	0.7	Ci.	Cu.-N.	NE	.....	Ω a.
2	60.24	27.9	33.4	23.8	62.3	NE	2.3	1.8	Ci.	Cu.	NE	.....	Ω a.
3	60.14	27.9	32.7	24.3	64.2	NE quad.	2	2	Ci.	Cu.	NNE	.....	Ω° a.
4	59.50	28	32.8	24	64	NE quad.	2.3	3.7	Ci.	Cu.-N.	NE	.....	Ω° a.
5	59.34	28.8	33.5	25	62.3	NE	2	.8	Ci.	Cu.		.....	
6	59.95	28	34.5	24.2	68	NE quad.	1.3	2	Ci.	Cu.-N.		.....	
7	60.36	28.1	32.6	24.9	66.8	NE quad.	2	.3	Ci.	Cu.		.....	
8	60.09	27.8	33.2	23.7	64.2	NE quad.	1.8	.3	Ci.	Cu.		.....	
9	60.36	28.6	33.5	24.4	65.5	NE quad.	1.8	2.7	Ci.	Cu.	NE	.....	
10	61.22	28.6	33.2	24.4	66.8	NE quad.	2	2.3	Ci.	Cu.	ENE	.....	Ω° a.
11	61.59	28.2	33.7	24.2	69	NE quad.	2	4.3	Ci.	Cu.	NE	4.6	☾ ● p.
12	62.11	28.1	33.9	23.6	65	NE quad.	2.2	3	Ci.	Cu.	NE	.....	
13	62.44	28	32.9	23.1	65.5	NE quad.	1.8	2.5	Ci.	Cu.	NE	.....	Ω° a.
14	61.56	28.2	32.8	25	66.8	NE quad.	2.2	1.5	Ci.	Cu.-N.	NE	.....	Ω a.
15	60.61	28.4	34	24.5	62	NE quad.	2.2	1.8	Ci.	Cu.		.....	
16	60.47	28.4	33.6	24.4	60.5	NE quad.	2.2	3	Ci.	Cu.-N.	NE	.....	
17	60.42	28.6	34	24.2	58.3	NE quad.	2	1	Ci.	Cu.		.....	
18	60.29	28.7	34.4	25	60.8	ENE	2	1.5	Ci.	Cu.	NE	.....	
19	59.65	29	34.6	25.1	58.7	NE quad.	2.3	1.3	Ci.	Cu.	NE	.....	
20	59.19	29.4	34	25.7	62.2	NE quad.	1.8	2.2	Ci.	Cu.	NE	.....	
21	58.84	29	34.1	25	63.7	NE	2.3	1.5	Ci.	Cu.	NE	.....	
22	58.67	29.6	33.2	26	64.8	NE quad.	2.5	2.5	Ci.	Cu.	NE	.....	d ◠ a.
23	58.73	28.9	34	24.9	64.7	NE quad.	2	1	Ci.	Cu.	NE	.....	
24	58.74	28.4	34	24.2	62	NE quad.	2.2	1.3	Ci.	Cu.	NE	.....	
25	58.51	29.2	34	25	60.2	ENE	2	2.7	Ci.	Cu.		.....	
26	58.94	28.6	33.1	24.5	63.5	E quad.	2.3	3.5	A.-Cu.	Cu.		.....	Ω° a.
27	59.43	28.1	31.6	26	70.2	NE quad.	1.8	7.3	Ci.	Cu.-N.		.....	d p.
28	59.14	29	35.1	25.7	71.8	NE quad.	1.2	5	Ci.	Cu.		.....	⊤ d p.
29	58.25	29.6	34	26.4	65.5	NE quad.	1.7	2.3	Ci.	Cu.		.....	
30	57.41	29.4	35.1	25.9	60.2	NE quad.	1.7	2	Ci.	Cu.		.....	
Mean	759.88	28.5	33.6	24.7	64.1		2	2.3				.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		4.6	

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*				*mm.*	
1	760.60	26.9	32.2	20.1	63	NE	0.8	4.5	A.-Cu.	Cu.	E	.....	
2	60.68	26.6	33.2	21	66.3	NE quad.	.8	4	A.-Cu.	Cu.	E	.....	
3	60.64	26	31.1	20.4	70.2	Variable	.8	3.5	A.-Cu.	Cu.	E	.....	
4	60.18	25.8	30.3	23.8	78.3	NE quad.	.7	7.5	Ci.-S.	Cu.-N.	E	5.6	d a. p. ☋° p.
5	59.69	26.3	30.8	20.8	79.2	SW quad.	.8	5.7	Ci. ESE	Cu.	NE	.....	Ω ☰° a.
6	59.89	25.4	31.3	19.8	75.2	S, N	.7	5.5	Ci. SE	Cu.	NE	.....	Ω a. ☾ p.
7	60.43	25.9	30.4	19.6	77.3	Variable	.7	4.8	Ci.	Cu., Cu.-N.	NE	.....	☾ ⊤ d° p.
8	60.39	26.8	32.5	21.7	77.7	NE, S	.3	5.7	Ci., A.-Cu.	Cu.-N.	NE	.....	☾ d° p.
9	60.78	26.3	31.6	22	82.8	N	.3	4.3	Ci.	Cu., Cu.-N.	E	7.4	● ⊤ p.
10	61.57	26	30.9	22.3	87	S quad.	.3	4.5	A.-Cu.	Cu.-N.	NE	5.1	● d ⊤ p.
11	62.08	25.7	28.4	22	89.3	SW quad.	.3	5.3	A.-Cu.	Cu.-N.	E	4.6	◠ a. d a. p.
12	62.82	24.8	32	19.2	75.3	E quad.	.3	2.5	Ci.	Cu.	E	.8	Ω a.
13	63.08	25.4	30.8	21.7	83	N, NE	.7	6.2	Ci.	Cu.-N.	E	2.8	☰° a. p a. p. ◠° p.
14	62.18	26.3	31.9	21.7	72.3	E	.7	4.3	A.-Cu.	Cu.-N.	E	.8	d a.
15	61.11	26.1	31.8	20.1	69.3	Variable	.8	3.2	Ci., A.-Cu.	Cu., Cu.-N.	E	.....	
16	61.07	27.1	32.2	22	62.3	E	.8	3.7	A.-Cu. E, SSE	Cu.	E	.....	
17	60.93	26.7	33.4	20	67.3	Variable	.8	1.8	Variable	Cu.	E	.....	
18	60.70	26.1	31.2	20.6	74.8	Variable	.8	2.2	A.-Cu. SE	Cu.-N.	E	.....	
19	60.52	27.7	33	23.8	65.5	NE	1.2	2.2	Ci.	Cu.	E	.....	
20	60.08	28.4	34.2	24.8	63.2	E quad.	.8	1.7	A.-Cu., Ci.	Cu.	E	.....	
21	59.38	29.4	34.5	25.8	60.7	NE	1.5	4.5	A.-Cu.	Cu., Cu.-N.	E	.....	
22	59.30	29.5	33.9	25.5	61.8	NE	.8	4.2	Ci.	Cu.-N.	E	.....	
23	59.38	28.6	34	22	61.3	NE	.5	2	Ci.-S., Ci.	Cu., Cu.-N.	E	.....	
24	59.39	27.2	33.3	21.8	66.8	NE	.7	2.8	A.-Cu., Ci.	Cu.	E	.....	
25	59.11	27.8	34.2	21.2	62.5	NE quad.	.8	2.7	A.-Cu., Ci.	Cu., Cu.-N.	E	.....	
26	59.51	27	33.8	20.5	70.8	NE	.3	4.8	A.-Cu.	Cu.-N.	E	.5	
27	59.65	26.4	30	24	85.2	Variable	0	6.8	A.-Cu.	Cu.-N.	E	3.8	d p ⊤ a.
28	59.52	27.2	31	23.1	78.8	NE quad.	.3	5.7	A.-Cu. E	Cu.-N.	E	3.1	☰° a. d a. p. ⊤ p.
29	58.97	27.6	33.1	23	71.3	E	.8	2.5	Ci.	Cu.	E	.....	
30	58.11	26.8	32.7	20.1	71.2	NE quad.	.7	2	Ci.-S.	Cu.	E	.....	
Mean	760.39	26.8	32.1	21.8	72.3		.7	4				.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		34.5	

Meteorological data for first and second class stations—Continued.

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 3.4 meters; gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.86	26.9	32.8	22.8	75.3	ENE	1	5.3	Ci.-S. SSW	Cu. E	-------	●° a. d° p.
2	60.92	27.4	32.5	23.6	76.5	WNW, SSE	.7	4.8	Ci.	Cu. ENE, NE	-------	Ω² p.
3	61.03	26.7	31.5	22.7	80.2	SE quad.	.8	4.7	----------	Cu. NE	1.3	Ω² ● a.
4	60.40	25.4	29	23.5	87.3	NW quad.	.7	7.8	Ci.	Cu. NE	13.7	●° a. ● p.
5	59.88	26.8	31.8	23.2	81.7	SE	.5	5.3	Ci. S	Cu. NE	-------	Ω² ≡ ☾² ⊕° a.
6	59.92	27.4	34.8	23.4	77.7	WNW	.2	7	Ci.-S. S	Cu. NNE	11.9	● ↘ p.
7	60.52	26.6	33	23.6	84	WNW	.7	4.5	----------	Cu. NbyE	28.4	Ω² a. ●² ↘ p.
8	60.47	27.5	34	23.6	82.8	NW quad.	.8	3.5	----------	Fr.-Cu. N	.5	Ω² a. ●° d° ⌐↯² p.
9	60.92	27.4	32.5	23.9	83.8	W quad.	.7	5.2	Ci. S	Cu. N, NW	-------	Ω² ☾² a. p.
10	61.88	26.4	33	24.3	86.5	Variable	.5	5.3	Ci.-S.	Cu. NEbyN	26.7	Ω² a. ●² ⌐↯² d p.
11	62.14	26.6	30.2	24.8	84.8	NE quad.	.8	7	----------	Cu.-N. ENE	4.1	● d a. Ω² p.
12	62.96	26.5	31.4	22.4	75.7	E	1	4.8	Ci.-S.	Cu. NE	2.8	Ω² a.
13	63.28	26.8	31	23.2	82	E	.7	6.3	Ci.-S.	N., Cu. E	2	● a.
14	62.55	27.1	32.5	23.3	78.8	E quad.	.8	5.3	Ci., S.-Ci.	Cu.-N. E	-------	
15	61.31	27	32.3	22.8	78	E	1.3	6.7	Ci.-Cu.	Cu.-N., Cu. ENE	-------	
16	61.55	26.6	30.5	23.3	75.3	SE quad.	.7	6.5	Ci. W	Cu.-N., Cu. E	-------	
17	61.40	26.9	31.9	22.8	78.8	SE quad.	1	2.3	Ci.	Cu. E	-------	Ω² p.
18	61.24	27	31.8	23.6	81.3	SE quad.	.8	3.3	----------	Cu. E	-------	Ω² a. p. d° p.
19	60.86	28	32.4	24	78.5	SE quad.	.8	4.3	Ci.	Cu. E	-------	Ω² a.
20	60.47	28.2	33.4	24.6	76.7	E quad.	.7	2	Ci.	Cu. ENE	-------	Ω² a.
21	59.77	28.7	34.5	24	76	E	.5	4.5	Ci.-S.	Fr.-Cu. E	.5	Ω² a.
22	59.71	28.5	34	25.2	77	E quad.	.8	4.3	Ci.	Fr.-Cu. ENE, E	-------	●° a.
23	59.67	28	33.6	24.3	77.5	Variable	1	3.2	Ci.	Cu. E	-------	Ω² a.
24	59.71	27.9	34.6	23.7	75.5	ESE	.7	4.3	----------	Fr.-Cu. NE	-------	Ω° a.
25	59.37	27.8	32.9	23.6	75.5	E quad.	1	3	Ci.-Cu. W	Cu. ENE, NE	-------	Ω² a.
26	59.50	27.3	33	23.4	78.7	N quad.	.7	5.3	Ci.-S.	Cu., Cu.-N. E	20.1	Ω² a. d° ●° p.
27	59.93	26.6	29.8	24	88.3	N quad.	.5	9	Ci.	Cu.-N. ENE	5.6	●² a.
28	59.90	26.7	31.8	24.8	89.8	Variable	.7	5.8	Ci.-Cu.	Cu.-N. E	3.8	● a. p. ⌐↯ ☋² p.
29	59.30	27.8	31.5	25	80.2	SE	1.3	3.8	Ci.	Cu. ENE	-------	☋² a.
30	58.32	27.6	32.2	24.4	80.5	SE	1	3.2	Ci.	Cu. ENE	-------	Ω² a.
Mean	760.66	27.2	32.3	23.7	80.2	----------	.8	4.9	----------	----------	-------	
Total	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	121.4	

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	761.05	26.4	32.2	22.3	82.3	NE	0.8	3.5	----------	Cu. E	-------	
2	61.16	26.7	32.3	23.7	78.7	NE	.8	4.2	Ci.-S.	Cu. NE	-------	
3	60.98	26.9	32.5	24.5	77.3	NE	.8	6	Ci.-S.	Cu. NE	-------	
4	60.37	27.5	33.4	23.9	77.5	NE	.7	5	Ci.-S.	Fr.-Cu., N. NE	-------	
5	60.09	27.4	33.7	24.3	78.3	NE	.8	4	Ci.	Cu. NE	-------	☋ p.
6	60.44	27.1	32.9	23.6	80.6	NE quad.	.5	5.2	Ci.	Cu. NE	-------	
7	60.66	27.6	33.3	24.4	78.5	N, NNE	.3	3.3	Ci.	Cu. NE	-------	
8	60.74	26.9	33	22.5	79.3	NE, NW	.3	2.3	Ci.	Cu. NE	-------	
9	60.96	27.6	33.6	23.5	81.2	N, NNE	.3	4.2	Ci.	Cu. NE	-------	
10	61.63	27.8	33.7	24.4	80.8	N quad.	.7	2.7	Ci.	Cu. NE	-------	
11	62.04	27.6	33.4	24.7	80.2	NE quad.	.5	7.2	Ci.-S. NE	Cu. NE	7.9	● ⌐↯ p.
12	62.76	27	33.2	23.7	78.8	NE, E	.3	4.3	Ci., Ci.-S.	Cu. NE, E	-------	●☾ a.
13	62.98	27.2	33.1	24	78.7	NE	1.2	5.5	Ci.-S. E	Cu., N. E, NE	-------	
14	62.39	28	33.6	24	76.5	NE quad.	1.3	5.5	Ci.-S.	Cu., N. E, NE	-------	
15	61.18	27.6	33.8	23.6	77	NE	.8	2.3	Ci.	Cu. NE, E	-------	
16	61.02	27.7	34.5	24.2	75.3	NE	.8	2.7	Ci.	Cu. E	-------	
17	61.03	27.5	34	24.3	74.2	NE	1	1.5	Ci.	Cu. NE, E	-------	
18	60.88	27.4	33.9	23.4	77.8	NE, N	.3	1	Ci.	Cu. NE, E	-------	
19	60.46	27.9	34.5	24.6	80.3	NE	.7	3.3	----------	Cu. NE	-------	
20	60.12	28.7	34.8	25.5	77.3	NE	1	2.2	----------	Cu. NE	-------	
21	59.89	28.5	34.8	24.7	75	NE	1	2.3	Ci., Ci.-S.	Cu. E	-------	
22	59.67	28.8	35	26.2	78.2	NE	1	4.7	Ci.-S.	N., Cu. NE	-------	
23	59.39	28.7	35.3	24.6	74.7	NE	1.2	2	Ci.	Cu. NE, E	-------	
24	59.27	28.1	34.4	24.6	73.5	NE quad.	.7	2.7	Ci.	N. E	-------	
25	59.11	28.2	34.6	24.4	76	NE	1.2	2.3	Ci.	Cu. ENE	-------	
26	59.50	28.1	34.4	24.6	76.8	NE	.7	.8	Ci.-Cu.	Cu. NE	-------	
27	60.05	27	31.7	25.3	84.7	NE quad.	.7	8.5	Ci.-S.	N. NE, E	.5	●° a.
28	59.44	28.4	33.8	25.5	83.3	NE	.7	5.7	Ci.-S.	N. NE	-------	d° a.
29	58.60	29.2	34.8	25.8	74.7	NE quad.	1	3.5	Ci.	Fr.-Cu., N. NE, E	-------	
30	57.71	28.2	34.7	24.8	76.2	NE	.5	2.5	Ci.	Cu. SE	-------	
Mean	760.52	27.7	33.8	24.3	78.1	----------	.8	3.7	----------	----------	-------	
Total	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	8.4	

Meteorological data for first and second class stations—Continued.

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.		Lower.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	760.93	26.6	35.7	20.6	72.3	NE quad.	0.8	1.2			Cu.	ENE		☰° a.
2	61.02	26.3	33.7	20.6	73.5	E quad.	1.2	4.3	A.-Cu.	E	S.-Cu.	E, ENE		☰° p.
3	60.94	26	31.1	22.3	75.8	Variable	1	4	A.-Cu.		S.-Cu.	NE		☋ a.
4	60.41	25.2	35	21.1	85.2	NE quad.	.7	4	Ci.-S.		S.-Cu.	NE		d° a. ☋° p.
5	59.98	25.2	30.4	20.8	86.8	S, SSW	.3	4.7	Ci., Ci.-S.		S.-Cu.	NE	2.1	☋ ☋ a. p. d p.
6	60.22	25.5	33.3	20	81.8	Variable	.8	4.2	Ci.		Cu.	N		☋ ♌ ☰° a. ☋° p.
7	60.64	25.4	31.7	20.6	84.2	N quad.	.7	4	Ci.		S.-Cu.	N	1.3	☋ ☋ ☰° a. d p.
8	60.53	26.6	33.6	21.2	79.5	N	1	2.2	Ci.		Cu.	NNE, NE		☰° d° a.
9	60.83	25.4	31.3	22.1	89.5	S, N	.3	4.5	Ci.		S.-Cu.	NE	4.1	☰° a. ●° ⊤ p.
10	61.72	27.1	34.6	21.8	77.7	NE	.5	2.3	Ci.		Cu.	NE		♌ ☰° a. ◟ p.
11	62.34	24.4	28.3	22.4	94	S, E	.3	7.7	Ci.-S., A.-Cu.		S.-Cu.	NE	47	● a. p. ⊤ ◟ p.
12	62.87	25.2	30.5	20.5	84.2	Variable	.5	2.7	Ci.		Cu.	ENE		♌ ☰ a.
13	63.16	25.4	30	21.9	86	N quad.	.7	4.7	Ci.-S.	ESE	S.-Cu.	ENE, E	13.7	●° p° a. d° p.
14	62.49	26.9	33.7	22.3	75.8	NE quad.	1	4	Ci.-S.		S.-Cu.	E		d° ◠° a.
15	61.34	25.7	31.3	20.9	79.5	Variable	.5	2.5			Cu.	E	2	☰° a. d^2 p.
16	61.40	24.6	30.2	20.4	86.7	Variable	.5	4.3	A.-Cu.	S	Cu., N.	E	6.4	♌° a. ●° p.
17	61.32	25.7	31.6	20.3	79.5	N	.8	1.3			Cu.	ENE, NE		♌ ☰° a.
18	61	26.1	32	21.4	83.2	Variable	.8	1.8			Cu.,S.-Cu.ENE,SSE			♌ ☰° a.
19	60.70	26.6	32.2	21.4	81.3	Variable	1	2.5			Cu., S.-Cu. NE, SE			♌ a.
20	60.27	27.8	34.6	22.7	75.5	Variable	.5	1.7			Cu.	E		
21	59.79	27.8	35.7	23.1	75.8	NE	1	1.3			Cu.	ENE, E		
22	59.63	29	36.4	24.5	72	NE	1.2	1.8			Cu.	E		
23	59.65	26.8	32.2	22.7	82	Variable	.8	3.2			S.-Cu.	ENE		
24	59.71	26.6	32.7	20.6	77	NE quad.	.8	1.5			Cu.	NE		♌ a. ☋ p.
25	59.35	27.2	34.1	20.9	73.8	NE	.8	1			Cu.	ESE		☋ p.
26	59.66	26.6	32.9	21.4	77	NE quad.	.8	4.3	Ci.-Cu.	SE	S.-Cu.	E		☋ ☋° p.
27	59.86	26.4	33.9	24.1	87.5	N quad.	.7	6.8	A.-Cu.		S.-Cu.	NE, NNE	40.8	⊤ ● ☋ p.
28	59.87	25.6	29.7	23.3	89.8	Variable	.5	3.5	A.-Cu., Ci.-S.		S.-cf.	E	4.6	♌ ⌐ a. ●° ⊤ ☋ p.
29	59.24	26.9	30.8	22.6	84.3	SE, SSW	.3	1.3			Cu.	E		$♌^2$ a.
30	58.28	26.8	32	21.9	81.3	Variable	.7	2.3			S.-Cu.	E		♌ a. ☋ p.
Mean	760.64	26.2	32.5	21.7	81.1		.7	3.2						
Total													122	

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.77 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	761.19	27.1	32.2	23.7	75	NE quad.	1	1.7	A.-Cu.	ENE	Cu.	E		☾° p.
2	61.48	27.9	33	22.7	73.7	NE quad.	1.2	.7			Cu.	ENE		
3	61.36	28.1	32.9	23.5	71.5	NE quad.	1.7	1.5	A.-Cu.		Cu.	ENE		
4	60.62	28.4	33.5	23.5	73.2	NE	1.3	2.2	Ci.		Cu.	NE, ENE		
5	60.20	28.4	33.8	24	74.3	NE quad.	1	1.8	Ci.		Cu.	ENE		
6	60.32	27.8	34.1	20.5	76.2	NE	1.3	1.5	Ci.	S	Cu.			☰° a.
7	60.72	28.4	34.2	24.4	72.3	NNE	1.5	1	Ci.		Cu.	NE		
8	60.72	27.4	34.8	18.9	75.7	NE	1.2	.8			Cu.			
9	61.01	29	34.9	24.5	72.8	NE quad.	1	2.3	A.-Cu.	NE	Cu.			
10	62.06	29	34.7	24.9	73.3	NE	1.5	1.3	Ci.		Cu.	NE		
11	62.40	27.2	34.4	21	81.3	NE quad.	1.2	4.5	A.-Cu.	NE	Cu.	NE, ENE	10.9	● p.
12	63.20	27.6	32.9	21.9	77.5	NE quad.	.8	1.5	A.-Cu.		Cu.	E, ENE	7.6	☰ a. ● p.
13	63.68	27.5	32.9	22.8	78.2	NE quad.	1.7	3.5	A.-Cu.	NE	Cu.	ESE, E	12.7	● a.
14	62.93	26.9	31.9	22.7	80.8	NE quad.	2.2	4.7	Ci.-S.		Cu.	ENE	7.6	● a.
15	61.77	27.4	32.5	22.5	78	NE	1.7	2.5	A.-Cu.	E	Cu.-N.	E	9.9	● a.
16	61.53	28.4	33.5	23.5	72.8	NE quad.	1.3	2.2	A.-Cu.	E	Cu.	E		
17	61.68	28.2	32.9	24	71.3	NE	1.3	.5			Cu.			
18	61.49	28.1	33.8	22.9	74.5	NE quad.	1	1	A.-Cu.	S	Cu.	E		
19	61.01	28.8	34.6	25	73.5	NE quad.	1.7	2			Cu.	E	12.2	
20	60.80	28.2	32.9	22.6	77.7	NE quad.	1.5	3.5	A.-Cu.	NNE	Cu.	E	3.5	● a.
21	60.46	28.5	33.1	24	75.7	NE, ENE	1.5	1.7			Cu.	NE	2.3	●° a.
22	60.33	27.9	32.4	24.5	80.7	NE	1.5	3			Cu.-N.	E	1.1	● a. d p.
23	60.10	29	33.9	24.4	75.8	NE	1.3	2.2			Cu.-N., Cu.	E		●° d° a.
24	60.08	28.6	33.6	24.9	72.8	NE	1.5	1.7			Cu.-N., Cu.	E		
25	59.75	28.9	33.5	24.5	69.8	NE	1.7	.8	Ci.		Cu.	ESE, E		
26	60	28.8	33.9	22.1	70.5	NE, ENE	1.2	2.3	A.-Cu.		Cu.	NE, E		d° a.
27	60.39	28.3	33.4	24.6	76	NE	1.7	7.5	A.-Cu.	NE	Cu.	ENE	9.9	d ● p.
28	60.08	26.8	32.5	24	87.8	NE	1	7	Ci.-S.		N.	E	27.9	● a. p. ⊤ p.
29	59.50	28.4	32.9	24.8	74.8	NE	1.3	1.7			Cu.			
30	58.49	28.5	33.8	22.7	73.3	NE quad.	1.2	.7			Cu.			
Mean	760.98	28.1	33.5	23.3	75.4		1.4	2.3						
Total													105.6	

Meteorological data for first and second class stations—Continued.

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	761.54	26.2	30.2	22.5	78.8	NE quad.	2.5	6.5	A.-Cu. ENE, E	Cu. NE	-------	● a. ☋² p.
2	61.57	27.3	31.2	25	77.5	NE	2.3	5.8	A.-Cu. E	Cu. NE quad.	-------	☋ p.
3	61.47	27.2	31	25.3	73.3	NE	2	4.5	A.-Cu., NE, ENE	Cu. NE	-------	d² ☋° p.
4	60.58	27.5	31	25.2	74.7	NE	2.2	5.3	A.-Cu., Ci.-Cu. E	Cu. NE	-------	☋° a. p.
5	60.44	27.6	31	25.3	74.7	N quad.	2.2	1.5	Ci.	Cu. N	-------	☋° a. p.
6	60.66	27.3	30.3	24.3	79.2	NE	2.3	5.7	Ci. S, SSW	Cu. NE	0.5	☋° d² ●° a.
7	61.07	28.3	32	24.8	73.5	NE quad.	2.8	4.7	Ci.	Cu. NE	.5	☋² d² a.
8	61.08	28.2	32	26.3	73.2	NE quad.	2.2	4.5	A.-Cu. E	Cu. NE	-------	☋° a.
9	61.24	28.1	31.7	26.4	76	NE quad.	2	4.2	A.-Cu. E	Cu. NE	-------	
10	62.26	28.4	32.2	26.1	75	NE quad.	2.2	4.3	Ci. ENE, E	S.-Cu., Cu. NE	-------	
11	62.51	28.6	32.2	26.2	74.8	NE	2.2	2.5	Ci.-Cu. NE	S.-Cu., Cu. NE	3.8	● p.
12	63.03	27.8	31	25.5	75.7	NE	1.8	7.7	A.-Cu. E, SE	S.-Cu. NE	-------	d° a. p.
13	63.68	28.2	32	25.4	72.8	NE, E	2.2	7.3	A.-Cu. E	S.-Cu., Cu. NE	-------	
14	62.96	28.1	31.5	25.3	74.5	NE	2.3	6.3	A.-Cu. E quad.	S.-Cu., Cu. NE, E	-------	d° p.
15	61.89	26.7	31.1	21.9	77.3	NE	2	3.3	Ci. ENE	Cu. NE, E	.8	Ω° ☰° a. ●° p.
16	61.57	27	32.7	22.2	73.3	N quad.	1.7	4	A.-Cu. E	Cu. NE	-------	d. a.
17	61.55	27	32.2	22.3	73.5	N	2	1.5	Ci., A.-S.	Cu. E	-------	
18	61.34	26.9	30.7	22.5	74	NE	1.5	1.7	A.-S.	Cu. E	-------	
19	60.80	26.3	30.2	22.1	80.8	SW, N	1.5	3.2	Ci.	Cu. NE, E	.3	●° d° p.
20	60.43	27.9	32.5	24.2	78.7	NE quad.	1.2	4	Ci. ESE	S.-Cu. E	-------	
21	60.56	28.2	32.3	25.7	73.7	NE	2.3	1.7	A.-S.	Cu., S. NE	-------	
22	60.33	28.4	31.5	26.1	77.3	NE	2.2	5.5	A.-Cu. E	Cu.,S.-Cu. NE, E	-------	⊤° p.
23	59.91	28	31.5	22.8	76.5	NE, N	1.8	2.8	A.-Cu. E	Cu. SE	-------	
24	59.69	28.1	31	24.1	75.5	NE, N	1.8	3.8		Cu., S.-Cu. NE	-------	
25	59.57	27.8	31.4	23.8	73.8	N	1.7	3.8	Ci. NNE	Cu. NE	-------	☋° p.
26	59.86	28.2	31.9	26.3	73.2	NE	2.3	3.2	Ci.	Cu. NE	-------	☋° p.
27	60.50	28.4	32	25.7	71.8	NE	3	2.2	Ci.	Cu. NE	.3	☋² d² p.
28	60.09	28	31.6	25.1	75.8	NE	2	8.8	A.-Cu. E	S.-Cu. NE	3.8	d° a. d ☋° p.
29	59	28.2	32	25	80.3	Variable	1	7.5	A.-Cu. E	S.-Cu.,Cu.SE,NE	-------	● a. ☋° p.
30	57.96	28.1	33	25	79.5	SW	1.3	5	A.-Cu. E	Cu. SE	-------	☋° a. ☋² p.
Mean	760.97	27.7	31.6	24.6	75.6		2	4.4				
Total											10	

PARACALE.

[ϕ=14° 17′ N; λ=122° 47′ E; barometer above sea, 5.3 meters; gravity correction not applied, —1.73 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	761.80	27	31.1	22.1	75.7	E	1.5	4	Ci.	Cu. E	0.5	●° p.
2	61.94	26.4	30.8	22.6	82.7	E	1	2	Ci.	Cu. E	4.1	● a. ●° p.
3	61.84	26	31.8	22.7	82	E	1	3.7	Ci.	Cu. E	2	Ω² a. p. d ● p.
4	61	27.3	31.6	23.8	79.3	E	1.2	3.7	Ci.	Cu. E	-------	Ω² a.
5	60.58	27.2	31.8	23.6	80.8	E	1	2.3	Ci.	Cu. E	-------	Ω a.
6	60.98	27.1	32	23	82.2	NNE	.8	3.8	Ci.	Cu. NNE, NE	-------	Ω a.
7	61.25	27.9	32.1	25.4	77.5	NE quad.	1.3	2.7	Ci.	Cu. NE	-------	
8	61.33	27.6	32.3	23.8	78	ENE	1	1.8	Ci.	Cu. NE	-------	
9	61.43	27.5	32.3	24	80.8	NE	.8	4.5	Ci.	Cu. NE	.5	●° a.
10	62.57	27.4	32.3	22.8	78.8	NE	.7	3.2	Ci.	Cu. NE	-------	Ω a.
11	62.82	27.6	32.3	23	80.8	NNE	1.3	5.2	Ci.	Cu. NE	-------	Ω a. ≲° p.
12	63.27	27.7	32.3	25.2	79.3	NE	1.8	7.7	Ci.-S.	Cu. NE	2	p° ●° a.
13	64.05	27.2	32.1	23	78.8	E	1.3	6.3	Ci.	Cu. E	5.6	●° a.
14	63.27	27.2	31.9	23	80.7	E	1.3	5.3	Ci., Ci.-S.	Cu. E	.8	● d ◠ a.
15	62.16	26.8	32.3	22.4	80.2	E	1.3	2.3	Ci.	Cu. E	-------	Ω² a.
16	61.86	27	32.3	22.8	80.3	NE	.7	4	Ci.	Cu. E	-------	Ω a.
17	61.85	27.4	32.4	23	75.5	E	1	1.8	Ci.	Cu. E	-------	Ω a.
18	61.50	27.1	32.6	21.9	77	E quad.	1	1.8	Ci.	Cu. E	-------	Ω a.
19	60.97	27.7	32.8	22.9	79.3	E	1.2	3	Ci.	Cu. E	-------	Ω a.
20	60.92	28.3	33.8	25.1	77.2	E	1.7	4.8	Ci.	Cu. E	-------	Ω° d° a.
21	60.93	28.4	33.3	25.6	75.3	NE, ENE	1.3	5	Ci.	Cu. E	-------	
22	60.80	28.6	33.3	25.3	78.3	E	1.5	4.5	Ci.	Cu. E	.8	●° d° a.
23	60.40	28	33.3	23.5	80.2	E	1	3.5	Ci.	Cu. E	-------	Ω a. d p.
24	60.10	28.1	32.8	23.8	77.5	E	1	2.5	Ci.	Cu. E	-------	Ω a.
25	59.92	27.2	33	22.1	78	E quad.	1	3.7	Ci.	Cu. E	-------	Ω a.
26	60.35	26.9	33.7	22	79.2	E	1	1	Ci.	Cu. E	-------	Ω a.
27	61.02	27.8	33.4	24	77.3	E	1.3	4.2	Ci.	Cu. E	9.2	Ω a. d° ●° p.
28	60.37	27.1	31	24	86.8	E	1	9.3	Ci.-S.	Cu. NE	7.1	● ◠ a. ●° p.
29	59.33	27.7	32.8	24.1	85.2	E	.7	3.5	Ci.	Cu. E	-------	Ω² a. p.
30	58.42	27.7	32.8	23.6	82.8	NE	.8	1	Ci.	Cu. E	-------	Ω² a.
Mean	761.30	27.4	32.4	23.5	79.6		1.1	3.7				
Total											32.6	

Meteorological data for first and second class stations—Continued.

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P.ct.*		*0–12.*	*0–10.*			*mm.*	
1	761.58	26.9	34	19.6	62.3	NE quad.	2.8	2.3	A.-Cu.	Cu. E	.....	☊ a. ☊° p.
2	61.66	26.7	34	19	64.7	E, NE	2.5	5.2	A.-Cu. ESE	Fr.-Cu., Cu. E	.....	☊ a. ☊° p.
3	61.33	28	35.6	21	59.3	NE	2.5	4.3	A.-Cu. ESE	Cu. E	.....	☊ a.
4	60.63	27.3	34.6	20.3	63.5	E quad.	2.8	3.3	A.-Cu. ESE	Cu. E	.....	☊ a. ☄° ☊° p.
5	60.16	28.8	37.7	20.4	61.8	NE	1.8	5.5	A.-Cu.	Cu. E, ESE	.....	☊ a.
6	60.41	29.3	37	23.2	61.3	NE, N	1.7	5	Ci.	Fr.-Cu. E	.....	☊ a.
7	60.83	28.9	36.3	24	62.7	ESE	1.5	7	A.-Cu. ESE	Cu. E	.....	⊤ ≤ p.
8	60.70	29.2	37	24	63.7	ENE, NE	1.7	4.7	Ci.	Cu. E	.....	☊° a. p.
9	60.95	30	38.2	21.2	62.3	ESE	1.7	3.3	Ci.	Cu. ESE	.....	☊ a.
10	61.64	31.2	39.6	23.5	60.7	N, NE	1.3	5	Ci.	Cu. NE, E	.....	☊ a. ≤ ⊤ p.
11	62.14	30.4	38	25	64	NE quad.	1.8	4.8	Ci.	Cu. ENE	.....	
12	62.48	29.2	37.4	23	65.8	NE quad.	2.3	5.3	A.-Cu. ESE	Cu. E	.....	⊤ ≤ p.
13	63.81	28.1	33.9	23	65.8	E	3	4.5	A.-Cu. ESE	Cu. E	.....	☊ d° a. ☄° p.
14	63.07	27.8	34.2	21.6	65.8	E, NE	2.7	3.2	A.-Cu. ESE	Cu. E	.....	☊ a.
15	62.14	27	34	20.5	66.8	NE	2.5	4.5	Ci. SE	Cu. E	.....	☊ d° a.
16	61.35	28.7	37.2	20.6	61.2	ENE	2.2	2.3	A.-Cu. ESE	Cu. ENE, E	.....	☊ a.
17	61.57	27.4	32.7	21	63.2	NE, ESE	2.3	6.2	A.-Cu. ESE	Cu. E	.....	☊ a.
18	60.98	29.3	37.2	20.8	57	ESE, NE	1.7	4.3	Ci.	Cu., Cu.-N. E	.....	☊ a.
19	60.64	29.1	36.2	23.4	61	E quad.	2	5.3	A.-Cu. ESE	Cu. E	.....	☊ a.
20	60.50	28.7	35.2	22.2	65	ENE	2.5	4.3	A.-Cu. SE, ESE	N., Cu. E	.....	
21	60.30	28.6	36.4	21.5	63.5	E, N	2.3	4.2	A.-Cu. SE	Cu. E	.....	☊ a.
22	60.29	29	36.6	21	63.5	NE quad.	2.5	1.8	A.-Cu.	Cu. E	.....	☊ a.
23	59.80	29.2	36	22.6	61.7	N, E	2.7	2.7	A.-Cu.	Cu. E	.....	☊ a. ☄° p.
24	59.42	29.7	37.7	21.5	61.8	E	2.2	2.3	Ci.	Cu. ESE	.....	☊ a. p. ☾° a.
25	59.44	29.5	37.2	24	59.8	E quad.	2.2	3.5	Ci. SE	Cu. E	.....	☊ a. p.
26	59.75	29	38	20	58.8	E quad.	1.5	1.7	A.-Cu. SE	Cu. E, ESE	.....	☊ a.
27	60.16	29.6	35.7	23.4	59.8	ESE, NE	3	2.8	A.-Cu. NNE	Cu. E	.....	☊ a. ☥° p.
28	59.83	29.5	37.6	21	62.7	E quad.	2.2	3.3	Ci.	Cu. ESE	.....	☊ a. ☥2 p.
29	58.76	30.2	39	25.4	66	E quad.	1.8	7.2	Variable	Cu., N. SE quad.	12.7	☥° a. ● ⌐ p.
30	57.69	30.7	36.7	25.5	68.8	E	1.8	6.8	Ci. S	Cu. SE	.....	⊤ ≤ p.
Mean	760.80	28.9	36.4	22.1	62.8		2.2	4.2				
Total											12.7	

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

	mm.	°C.	°C.	°C.	*P.ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.54	28.3	37.3	22.1	67.2	S quad.	1.5	2.5	.....	Cu.	.....	
2	60.75	28.1	37.1	21.7	70.2	S quad.	1.3	2.7	.....	Cu., S.-Cu.	.....	
3	60.58	27.5	35.8	22	75.8	Variable	1.5	2.2	Ci.	Cu., S.-Cu.	.....	
4	59.66	28.9	37.4	23.6	69.5	SE, NW	1.7	2	Ci.	Cu., S.-Cu.	.....	
5	59.80	27.7	34	21.6	74	NW quad.	1.3	1.8	Ci.	Cu., S.-Cu.	.....	
6	59.96	27.9	31.7	24	79.8	NW	1.2	4.2	Ci., Ci.-S.	S.-Cu.	.....	
7	60.13	29.2	36.6	24.3	74.8	W quad.	1	7	Ci.-S., A.-Cu.	S.-Cu.	0.3	≤ ⊤° p.
8	60.12	28.1	34.9	23.6	82.7	NW quad.	1.2	5	.....	S.-Cu.	.....	d° a.
9	60.60	28.3	34.1	23.5	82.3	NW	1.3	1.7	Ci.	S.-Cu.	.....	
10	61.36	29	33.3	25.7	83.5	NW	1.5	1.3	Ci.	Cu.	.....	
11	61.53	29.7	35.9	24.8	79.2	SE, NW	1.7	1.2	.....	Cu.	.....	
12	61.95	28.2	33.1	24.1	82.3	NW quad.	1.2	2.7	Ci.-S., A.-Cu.	S.-Cu. NE	.....	☊ ≡° a. ≤ p.
13	62.65	29.3	36.9	24.4	76	SE	2	4	Ci., Ci.-S.	S.-Cu.	.....	☽° a.
14	62.13	28.3	37.4	22.2	79.3	SE, S	1.2	2.3	Ci.	Cu., S.-Cu.	.....	
15	61.26	29.1	36.9	24.2	76.5	S, SE	1.5	6	Ci.	Cu., S.-Cu.	.....	d☽ p.
16	60.94	28	33.6	23.2	82.3	SE, NW	1.8	5.8	Ci., A.-Cu.	S.-Cu. SE	5.1	
17	60.61	28.3	36.6	22.4	83.2	SE, NW	1.2	5.2	Ci., A.-Cu.	Cu., S.-Cu. NE, SE	.....	p a.
18	60.45	28.4	35.7	23.3	73	NW quad.	1.8	4	Ci.	Cu. NE	.....	
19	59.96	29.4	37.4	24.5	74	SE quad.	1.3	3.3	.....	Cu. NE	.....	
20	59.60	29.5	37.5	23.9	73.3	S, SE	1.3	3.8	A.-Cu.	Cu. SE	.....	
21	59.28	29.8	38.6	23.9	70	SE	1.2	1	.....	Cu.	.....	
22	59.44	29.3	39	23	76	S	1.3	.7	.....	Cu.	.....	
23	58.85	29.6	39.3	23.4	77.3	S quad.	1.5	2.8	A.-Cu. E	Cu.	.....	
24	58.66	28.9	37.4	23	76.8	S, NW	1.7	1.7	Ci.	Cu.	.....	☽2 a. ☥ p.
25	58.54	29.8	38.3	23.5	74.2	NW, S	1.2	5.2	Ci.	Cu. SSE	.....	≤° p.
26	59.03	29.3	35.3	23.5	73.2	SE, NW	1.8	3.2	Ci.	S.-Cu.	.....	
27	59.03	30.4	39	24.9	71.2	SE quad.	1.7	4.3	.....	S.-Cu.	5.1	p p.
28	59.24	29	38.7	23.2	76.5	NW	1.5	2.3	.....	Cu., S.-Cu.	.....	
29	58.03	30.5	38.7	25	74.2	NW	1	4.2	A.-Cu.	Cu. SE	.....	≤° ⊤° p.
30	57.12	29.7	34.4	26.7	81.2	NW quad.	1.3	7.2	Ci.-S., A.-Cu.	Cu., S.-Cu. SE	.....	⌐ ☥° p.
Mean	760.06	28.9	36.4	23.6	76.3		1.4	3.4				
Total											10.5	

Meteorological data for first and second class stations—Continued.

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 9.7 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.48	28.6	35.9	23.1	60.5	SE quad.	4	5.7	Ci.	S.-Cu., Cu.		
2	60.88	28.4	35	23.9	68.7	NE quad.	2.5	8.2	Ci.-S., Ci.	S.-Cu.		☊° a.
3	60.82	28.7	34.6	23.7	67.5	NNE	3.5	8.7	Ci.-S., Ci.	S.-Cu.		d° a.
4	59.77	28.4	35.1	22.4	70.7	Variable	2.7	3.5	Ci.	S.-Cu. WNW		☊° a.
5	60.06	28.4	34.9	23.5	72.7	Variable	3.2	8.7	Ci., Ci.-S.	S.-Cu. NNW		☊° a. ≤ p.
6	60.40	28.6	33.3	26.8	76.3	NNE	3.7	9.3	Ci.-S., Ci.	Cu. NNE		≤ p.
7	60.36	28.4	34.1	25	77.3	S, W	2.3	6	Ci.-S.	S.-Cu.		☊° a. ≤ p.
8	60.36	28	33.6	23.4	77.7	S, WNW	2.3	7.2	Ci.	S.-Cu.		☊ a.
9	60.89	28.3	34.1	23.8	76.7	N quad.	3	8.3	Ci., Ci.-S.	S.-Cu.		☊° a.
10	61.70	29.6	34.9	27	75.3	NNE	3.7	6.5	Ci.-S.	S.-Cu.		
11	61.83	29.4	34.5	24.9	77.3	NW quad.	2.7	4.7	Ci.-S.	S.-Cu.		☊° a.
12	62.08	28.4	32.9	25.4	79.2	N quad.	3	6.3	Ci.	S.-Cu.		
13	62.57	29.2	35.9	26.5	62.8	SE quad.	4.7	8.7	Ci.-S.	S.-Cu. NW		☊° a.
14	62.27	28.5	35.5	23.9	72.5	Variable	3.2	6	Ci.-S.	S.-Cu.		≤ p.
15	61.30	29.6	35.4	25.9	65	Variable	3.7	10	Ci.-S.	S.-Cu., Cu.	1.3	≤ p. ↙° a. p.
16	61.16	27.5	32.4	24.4	80	N quad.	3.2	9.7	Ci.-S.	S.-Cu.	2.5	☊° a.
17	60.72	28.8	33.8	25	73.8	N quad.	3	5.2	Ci.-S.	S.-Cu.		●° a.
18	60.53	28.8	34	24.8	69.3	Variable	3.5	6.7	A.-Cu.	S.-Cu.		
19	60.10	29	33.7	24.5	73	Variable	3.2	7.2	A.-Cu., Ci.-S.	Cu. SSW, NW		☊° d° a.
20	59.67	29.3	34.2	25	73	Variable	3	5.7	Ci.-S.	S.-Cu.		☊° a.
21	59.44	29.8	36.2	25.5	65.2	Variable	4.2	2.8		Cu.		
22	59.56	29.4	34.8	24.8	70.2	SE	3.5	2.2		S.-Cu., Cu.		
23	58.97	29.3	34.8	23.4	74.2	SE	2.8	3.7	Ci.	S.-Cu.		
24	58.77	29.5	34.9	25.1	71.7	SE, NW	3.2	8.2	Ci.-S.	Cu.		☊° a.
25	58.57	29.6	35.1	25.1	75.7	SSE, WNW	2.5	9.5	Ci.-S.	S.-Cu., Cu.		☊° a. ○² a. p. ⊕ °p.
26	59.27	29.3	35.6	24.7	77.3	N quad.	3	5.8	Ci.	Fr.-Cu. NNE		○² p.
27	59.27	29.8	35.1	25.6	77	NW quad.	2.5	6.3	Ci.	S.-Cu. NW		
28	59.29	29.2	35.8	23.6	74.2	Variable	3	2.8	Ci.-S.	S.-Cu.		
29	58.51	29.5	35.6	24.6	76.7	Variable	2.8	4.7	Ci.	Cu.		☊ a.
30	57.78	29.5	35	26.1	79.5	N quad.	3	5.8	Ci.	Cu., Cu.-N.		☊° a.
												≤ p.
Mean	760.25	29	34.7	24.7	73		3.2	6.5				
Total											3.8	

BAGUIO.[a]

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1,512.5 meters; gravity correction not applied, —1.65 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	638.14	18.3	26.4	13.2	65	E, W	1.7	2.4	Ci.	Cu. SSE		○° a. p.
2	38.38	19	26.7	14	65.8	NE quad.	1.3	4.3		S.-cf. ESE		○ a. p.
3	38.35	18.9	25.6	14.9	75.2	E	1.2	5.7	Ci.	Cu. WSW		≡° a. ○ p.
4	37.58	19.2	28.1	13.9	65.2	E, W	1.8	1.3		Cu.		○ a. p.
5	37.65	18.4	26.8	13.8	80.2	E	1.7	5.4		Cu. EbyS		≡° ○ a. p.
6	37.97	19	26.5	15.7	82.2	SE, WSW	1.3	8	Variable.	S.-Cu. E, ESE		○ a. d p.
7	38.19	19	25.6	16.1	81.8	NE, W	1.2	9	Ci.	S.-Cu. NNE	5.1	d ● p.
8	38.09	18.6	23.2	16.2	90	NW quad.	1.5	9.7		S.-Cu. NE	.5	≡ ●° p.
9	38.56	19	26.1	15.6	88	W	1.2	6.6	Ci.	S.-Cu. W		☊ a. ≡° p.
10	39.63	20.1	27.2	16.3	82.5	E quad.	1.5	6.4	Ci. SW	Cu. S		☊° ≡° a. ⊤ p.
11	39.75	19.7	26.8	16	78.2	W quad.	1.5	4.4	Ci.	Cu. ESE		○ a.
12	39.76	17.8	23.1	15.4	92.3	E, W	1.8	7.4	Ci.	Fr.-N. WSW, SE	1.4	●° ≡ p. d° a. p.
13	40.14	19.1	26.9	14.5	71.7	SW quad.	2.5	5.7	Ci. NW	Cu. WbyS		≡° p.
14	39.80	19.4	27.3	14.4	71.2	E	1.8	3.1		Cu. E, WSW		☊° ○ a.
15	38.94	18.5	25.9	15.1	85.5	NE, W	1.2	6.1	Ci.	S.-Cu. NE quad.		
16	38.52	18.1	23.9	15.3	87.2	W	1.2	8	Ci.	S.-Cu. Variable		≡° ⊤° p.
17	38.41	18.7	26.6	14.4	80	W	1.3	5.9	A.-Cu.	Cu. E		○○° a.
18	38.20	18.2	25	15.5	83.8	W	1.2	7.1	Variable.	s.-cu. ESE, WNW		☊ a.
19	38.02	19	25.4	14.8	82.2	E, W	1.3	5		Cu. ESE, WSW		≡° ○ a.
20	37.80	18.9	25.4	15.7	80.5	E, W	1.7	7	Ci., A.-Cu.	S.-Cu. ESE		
21	37.69	20.2	28.3	14.2	67.3	E, W	2.2	2.4		Cu. SW		☊ ○° a.
22	37.84	20.4	28.3	15.7	72	Variable	1.2	2.6		Cu. SW		○ a. p.
23	37.58	20.5	27.4	16.2	75.7	E quad.	1.7	4.6	A.-Cu. SE	Cu. Variable		○ a. p.
24	37.26	20.8	27.4	16	62.3	E quad.	1.7	5.1	Ci., Ci.-S, NW	Cu. W		○° a. ☋° p. ○ a. p.
25	37.04	19.7	27.4	16.2	80.3	W	1.7	6	Ci. W	Cu. ENE		○ a. ≡° p.
26	37.47	19.7	26.6	15.8	82.3	W quad.	1.5	6	Ci.	Cu. W		☊° a. ≡ p.
27	37.66	20.6	28.8	16.2	74.7	W	2	3.7	Ci.	Cu. Variable		○ a.
28	37.63	20.1	28	15.7	82.2	W	1.5	2.6	Ci.	Cu. W		≡° a.
29	36.93	20.8	28.1	16.8	83.2	SE quad.	1.3	6.4	Ci.	Cu. Variable	.8	⊤ ⌐↯ d p.
30	36.22	19.9	27.6	17.2	87.3	E quad.	1.5	7.6	Ci.-Cu. N	S.-Cu. W quad.	.2	≡° a. ⌐↯ d ◠° p.
Mean	638.17	19.3	26.5	15.4	78.5		1.5	5.5				
Total											8	

[a] The barometric readings of this station are not reduced to sea level.

Meteorological data for first and second class stations—Continued.

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 14.7 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.		Clouds. Prevailing form and its direction. Lower.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	760.78	27.5	33.3	24.2	61	NW quad.	1.5	1.2	A.-Cu.		S.-Cu.			
2	61.07	27.2	32.6	22.7	71.7	N quad.	.8	2.2	A.-Cu.	E	Cu.			
3	60.96	27.4	33.2	23.3	74.3	NNW	1	4.3	A.-Cu.	E	Cu.	SE, N		⌒° p.
4	59.94	27.7	32.2	24.3	68.7	Variable	1.2	2.7	A.-Cu.	ESE, E	Cu.			
5	60.13	27.7	32.8	23.5	69.8	Variable	1.2	1.5	A.-Cu.		Cu.			
6	60.20	27.4	31.8	23.4	75.5	NNE	2	3.5	A.-Cu.		Cu.	NNE		
7	60.28	28.6	32.8	24.7	68.7	Variable	.8	3.2	A.-Cu.		Cu.	W		≤° p.
8	60.48	28.1	33.2	24.9	75.7	WSW	.7	3.5	A.-Cu.		Cu.	WNW		
9	61.02	28	32.5	24.7	72.8	N quad.	1	1.7	A.-Cu.		Cu.	SW		
10	61.60	28.6	35.5	25	71.7	N quad.	1.3	1.8	Ci.	WSW	S.-Cu.			
11	61.85	28.6	34.3	24	69.5	N quad.	1	1.3	A.-Cu.	WNW	S.-Cu.			≤ p.
12	62.26	27.8	32.8	23.7	65.2	N quad.	2.8	4.5	A.-Cu.		Cu.	NE		⌒° p.
13	62.91	28.4	33.3	24.3	63.7	NNE	1.7	4.3	A.-Cu.	SW	Cu.	NE		d° p.
14	62.37	28.5	33.7	24.7	67	N quad.	1.3	3	A.-Cu.	E	Cu.			
15	61.47	27.9	32.2	24.8	77.2	NNW	.7	4.7	Ci.		Cu.	SE		
16	61.18	27.3	31.6	24.2	77.2	N quad.	1.5	5	Ci.	SSW	Cu.	NNE		
17	60.79	28.1	32.7	24.6	73.5	SE quad.	1.2	3.7	Ci.	SSW	Cu.	S, SSW		
18	60.70	28.1	32.7	24.8	72.5	S quad.	1.2	2.8	A.-Cu.		Cu.	S, SSW		
19	60.37	27.4	32.7	23.5	77.2	Variable	.7	4.2			Cu.	SSW, NNE		
20	59.98	28.1	32.7	24.3	76.5	SE quad.	.8	4	Ci.		Cu.	SSW		
21	59.78	28.8	33.7	24.7	72.3	N quad.	1	2.8	A.-Cu.		Cu.	SE		
22	59.84	28.6	32.8	24.8	73.7	W quad.	.8	2.7	A.-Cu.		Cu.	WSW		
23	59.19	29.1	33.3	25	74	Variable	1.2	3.8	A.-Cu.		Cu.			
24	59.06	29.3	33.8	25.6	76.5	NW quad.	1.2	4.8	A.-Cu.		Cu.	SSE		
25	58.82	28.7	33.2	25.3	77.7	SSW	.7	5.5	Ci.	NNE	Cu.	SSW		≤ p.
26	59.38	29.2	34	25.5	73.5	NW quad.	1	3.2	A.-Cu.		Cu.	NW		
27	59.29	28.7	33.6	23.5	70.3	Variable	1	1.3	A.-Cu.		Cu.	ESE		
28	59.56	29.1	33.5	25.5	71.5	Variable	1	3.8	A.-Cu.		Cu.-N.	SSE		d° a.
29	58.52	29.2	34.2	26	68.7	NNW	1	2.7	A.-Cu.	SSW	Cu.			
30	57.60	29	34.2	24.4	72	N quad.	1	3.2	A.-Cu.	SSW	Cu.			
Mean	760.38	28.3	33.2	24.5	72		1.1	3.2						
Total														

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	761.84	26.8	36.6	19.6	68	SE	0.7	0.8			Fr.-Cu.	S		∞° p.
2	61.52	27	37.6	18.8	66.8	SE	1	3			S.-Cu.	N		Ω° a.
3	61.38	29	38.2	22.6	63.8	SE	.7	4.8			Cu.	S		∞° p.
4	60.75	28.4	38	20.5	63.3	SE	.5	2.2	Ci.		Fr.-Cu., Cu.	SE, S		
5	60.41	28.4	39.6	20	64.5	N	1	3.2			Variable			≤° p.
6	60.90	28.2	36.4	23.5	68.5	NE quad.	1	5.7			Cu.	NE, N		∞° p.
7	61.30	27.8	36.2	23.1	71.5	NW	.8	8	Ci.-S.		S.-Cu.	N		Ω° a.
8	60.95	28.1	36.5	21.5	66.8	NW	.7	5.8	Ci.-S.		Cu.	NE		
9	61	28.6	37.6	22	66.2	N quad.	1.2	2.2			Fr.-Cu.	SE		Ω² a.
10	62.54	28.2	36.7	23	68.8	NW	1.2	2.3	Ci.		S.-Cu.	N		Ω° a.
11	63.68	26.8	35	21.5	75.5	N quad.	1.8	3.3			Cu.-N.	N	2.8	Ω° a. d ≤ p.
12	64.63	25.2	30.1	21.2	82	N quad.	3.2	8.7			Cu.-N.	N		p ⌒² a.
13	64.48	27.3	37.3	20.6	70.7	S, SE	.3	3.8	Ci.		Cu.	S		Ω² a.
14	63.50	27.6	36.3	20.5	66.5	SE	.5	3.5	Ci.		Cu.	S, SE		Ω° a.
15	61.78	28.2	38.1	20.2	60.7	SE quad.	1	1	Ci.		Fr.-Cu., S.-Cu.	S		Ω° a.
16	61.42	28	37.8	21.1	65.2	NE quad.	1.2	1.7			Cu.	E, NE		Ω° a.
17	61.31	29	38.7	22	58.2	S quad.	1	2.3	Ci.	SE	S.-Cu.	S		Ω² a.
18	60.84	28.3	38.9	21	60.7	Variable	.7	1	Ci.		Cu., S.			Ω° a.
19	60.52	29	39	22.2	62.5	S quad.	.7	3.3			S.-Cu., Cu.	N, S		
20	60.44	29.6	38.2	23.8	62.3	S quad.	1.2	3.7			Cu.	S		
21	60.24	29.6	38.6	22.4	57.3	S quad.	1.2	2			Cu.	S		
22	60.17	29.4	39.5	21.5	59.7	SE	.8	.8	Ci.		S., Cu.			
23	59.46	30.1	40.1	22.2	60.5	SE	.8	1.8	Ci.		Fr.-Cu., Cu.			
24	59.27	29.6	40.6	20.4	60	Variable	.8	1.3	Ci.		S.-Cu.			⌒ p.
25	58.97	29.9	39.6	23	60.8	S quad.	.7	4	Ci.		Cu.	S		⌒ p.
26	59.57	29.4	39	23	56.8	N quad.	1.5	5	Ci.		S.-Cu.	NE		
27	60.60	29.1	38.8	22.8	65.3	Variable	.7	4.2	Ci.		Cu.	E, S		
28	59.78	29.2	39.5	21.8	62.5	Variable	.8	2.5			Fr.-S., Cu.			
29	58.50	30.6	42.2	24.7	65.5	E quad.	1.2	6			Cu., Cu.-N.	W, N		⌐° ≤ p.
30	57.46	31.1	41.3	25.5	63.8	SE, N	1.2	7	Ci.		Cu., Cu.-N.	S, N	4.6	≤² ● ⌐⌐° p.
Mean	760.97	28.6	38.1	21.9	64.8		1	3.5						
Total													7.4	

Meteorological data for first and second class stations—Continued.

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	761.68	24.9	30.6	20.6	78.3	E	1.3	0				☊ ≡° a.
2	61.31	25.2	31.8	19.8	75.8	NE	1.5	1.2	A.-Cu.	S.-Cu.		☊ a. ∞ a. p.
3	61.22	26.4	32	21.6	75.5	NE	1.2	1.3	Ci., A.-Cu.	S.-Cu.		∞ a. p.
4	60.61	25.8	31.2	20.6	73.8	E	1.3	.2		Cu. SE		∞ a. p.
5	60.35	26	33	21.5	78.5	N, SE	1.5	1.7		S.-Cu. W		∞ a. p. ≲ p.
6	61.44	25.8	30.5	22	82.8	N, NE	1.5	3.8	A.-Cu. SW	Cu.-N. N		∞ a. p.
7	61.33	26.4	29.9	24.6	78.3	E	2	4	Ci.	Cu.-N. NE		∞ a. p.
8	60.96	25.8	30.4	21.3	79.7	E	1.2	.7		Cu.-N. SE		☊ ≡° a. ∞ a. p.
9	61.17	26	31	21.5	82.8	E, NE	1.2	.2		S.-Cu.		☊ a. ∞ a. p.
10	62.90	26.7	31	22.8	78.5	NE	.8	1.3		S.-Cu. NE		☊ a. ∞ a. p.
11	64.04	25.8	30.4	22.6	81.2	NE	2.2	4.5		S.-Cu., Cu.-N. NE	2.5	☊ ⌒ a. ∞ a. p.
12	65.20	22.8	24.6	21.6	93.7	NE	3	10		N. NE	23.6	●° a. p.
13	64.01	25.6	31.4	21.2	79.3	E	1.3	1.8		S,-Cu., Cu.-N. SE		
14	63.01	26.4	32	22.3	74.5	E	1.8	.2		Cu.-N.		
15	61.31	26.7	32.8	22.4	76.8	S, E	1.8	.2		S.-Cu.		
16	61.38	26.5	30.7	22.8	79.2	N quad.	1.2	1.2	Ci.	Cu. E		
17	61.13	26.1	31.3	20.3	78	E quad.	1	2.5	Ci.	Cu.		☊° a. ≲ p.
18	60.76	26.6	33.1	21.7	72.8	NE	1.7	1.2		S.-Cu.		☊° a. ≲ p.
19	60.26	27.3	32.7	23.2	74.8	N quad.	2.2	1.2	A.-Cu. E	Cu.		
20	60.12	27.5	32.8	21.7	76.3	SE quad.	1.2	1.3	Ci.-S.	Cu. E, ESE		≲ p.
21	60.07	27.4	33.3	23.4	71.3	E, SE	1.7	.3		Cu.		
22	59.89	27.2	33.4	21.9	72.5	NE, SE	1.7	.5		Cu.		
23	59.21	27.7	34.5	23.8	75.2	Variable	2.2	1	Ci., A.-Cu.	Cu.		
24	59.08	27.5	35	23.6	75	NE, S	2	1	Ci., Ci.-S.	Cu.		
25	58.92	27.3	32.7	22.7	75.3	E quad.	1.3	3.7	Ci. W	Cu. SE		☊° a. ⌐≲'p. ○² a.'p.
26	59.70	27.8	32.4	23.7	72.8	NE, SE	1.5	3.8	A.-Cu. W	Cu.		○ a. p.
27	60.56	26.6	31.2	22.6	79.2	NE quad.	1.7	1.2	Ci.	Cu. SE		
28	59.78	27.5	32.1	22.3	75.7	E quad.	1.2	1.2	Ci.	Cu.		
29	58.62	27.6	34.3	23.3	76	NNE, SSE	1.3	2.5	A.-Cu. SW	S.-Cu.		
30	57.54	28.4	33.6	24.5	74.3	NE	1.7	5.5	A.-Cu.	Cu. SE	1.5	⌐≲° ●° ≲ p.
Mean	760.92	26.5	31.9	22.3	77.3		1.6	2				
Total											27.6	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	22.8	94	70	10	6	------	d a.
2	32.1	21.4	96	69	5	5	------	
3	31.5	20.4	94	72	5	5	------	☊° a.
4	------	------	------	------	7	5	------	☊ a.
5	32.5	20.9	95	70	5	5	------	☊° a.
6	32.2	20.7	95	82	5	5	------	☊° a.
7	32.5	20.5	89	80	5	5	------	
8	32.8	20.9	93	79	5	5	------	
9	31.9	19.6	94	----	5	5	51.1	d a. ●² p.
10	30.9	20	96	78	5	6	------	
11	31.7	21.2	97	87	8	6	------	
12	32.3	21.8	97	83	5	8	------	
13	30.1	19.8	96	76	6	8	52.1	☊° a. ●² p.
14	29.1?	20	98	75	5	5	------	
15	31.9	21.9	95	81	6	7	------	☊° a.
16	30.9	22.2	97	67	9	5	------	☊ a.
17	31.8	22	92	80	5	6	------	☊° a. p° p.
18	30.2	22.6	83	76	6	7	------	☊° a.
19	31.8	21.9	84	77	6	5	------	☊ a.
20	31.2	21.2	89	78	5	6	------	☊° a.
21	30.4	22.1	88	73	6	5	------	☊° a.
22	31.5	21.8	88	76	5	6	------	
23	------	------	------	------	------	------	------	
24	------	------	------	------	------	------	------	
25	------	------	------	------	------	------	------	
26	------	------	------	------	------	------	------	
27	------	------	------	------	------	------	------	
28	------	------	------	------	------	------	------	
29	------	------	------	------	------	------	------	
30	------	------	------	------	------	------	------	
Mean	31.5	21.2	92.9	76.4	5.9	5.7	------	
Total	------	------	------	------	------	------	[a]103.2	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	23.1	88	45	9	3	------	☊° a.
2	------	21.6	96	75	8	6	------	☊° a.
3	------	20.6	95	79	5	10	------	☊ a.
4	------	21.1	96	71	10	10	------	☊° a. ⊤ p.
5	------	20.6	96	75	1	9	------	
6	------	21.1	96	64	1	3	------	☊ a.
7	------	21.6	98	68	1	3	------	☊ a.
8	------	22.3	----	66	8	9	------	↘ p.
9	------	22.6	97	88	10	10	2.5	☊° ⊤ a. ●° p.
10	------	21.9	96	61	1	7	------	☊ a. ↘ ⊤ p.
11	------	25.1	98	69	10	10	------	
12	------	23.3	88	68	10	10	------	
13	------	21.9	96	64	1	5	------	☊° a.
14	------	21.6	----	62	0	5	------	☊° a. ⊤ ↘ p.
15	------	21.6	88	79	10	10	1.5	p a.
16	------	21.5	96	63	0	9	------	☊° a.
17	------	21.3	95	68	9	8	------	
18	------	22.6	95	67	10	4	2.3	☊° ●° a.
19	------	22.7	97	65	10	4	------	☊° a.
20	------	22.1	96	76	9	3	------	☊ a.
21	------	22.6	96	68	10	4	------	☊ a.
22	------	23.9	92	44	9	7	10.9	☊° a.
23	------	24.3	100	92	10	9	1.8	● p a. d p.
24	------	22.5	----	93	2	10	2.6	☊ a. p a. p.
25	------	22.3	97	82	1	9	------	☊ a. ⊤ ↘ p.
26	------	24.6	98	86	10	10	------	☊° a. ↘ p.
27	------	23.3	96	76	1	9	.5	☊ a. ●° d p.
28	------	22.1	97	79	2	5	------	☊ a.
29	------	23.1	96	93	2	10	10.2	☊ ● a.
30	------	23.8	----	81	9	7	------	☊ a. ⊤ a. p.
Mean	------	22.4	95.3	72.2	6	7.3	------	
Total	------	------	------	------	------	------	32.3	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6. a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	24.2	80	67	7	5	------	
2	30.8	23	81	75	10	7	------	
3	31.4	22.9	82	75	4	4	------	
4	30.2	23	82	72	5	10	------	
5	30.5	22.9	84	77	4	7	------	
6	30	22.9	86	70	2	8	------	
7	30.3	22.2	89	70	2	3	------	
8	31.6	22.5	84	72	5	9	------	
9	32	22.7	87	62	9	3	7.4	⊤ ● a.
10	30.9	22.9	92	76	2	8	------	↘ p.
11	32.3	24	87	69	10	7	------	↘ p.
12	31.4	24.3	83	69	10	3	------	☊° a.
13	31.1	24.5	88	62	9	2	------	d a.
14	30.5	22.5	84	77	1	2	------	
15	27.9	23.5	87	92	10	10	17.2	●° a. p. ● p.
16	31	22.5	81	73	2	4	------	◸ ☊° p.
17	31.7	23	86	69	8	2	------	
18	30.7	23	82	74	3	4	------	
19	33	23.7	84	71	7	1	------	
20	31.5	23.5	86	73	4	1	------	
21	32.5	24.1	85	69	8	2	------	d p.
22	32.8	24.8	92	72	10	3	------	↘ p.
23	30.9	24.9	87	75	3	10	1.3	●° a. d ↘ p.
24	32.3	24.6	89	64	6	4	------	d a.
25	31.1	23.5	86	73	6	2	------	d a. p. ◸ p.
26	30.8	23.5	82	79	7	9	------	d a.
27	31.4	24	87	68	5	2	------	
28	30.9	24	88	79	4	2	------	
29	29	24.5	88	88	7	10	1.5	p ⊤ a.
30	30	24.4	85	83	8	3	------	
Mean	31.1	23.5	85.5	73.2	5.9	4.9	------	
Total	------	------	------	------	------	------	27.4	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34	19.6	89	50	6	5	------	
2	33.7	20.3	96	52	7	6	------	
3	33.8	20.9	96	52	5	7	------	
4	33.7	22.1	96	54	8	6	------	
5	33.8	20.6	94	56	5	6	------	
6	33.7	23	96	62	5	7	31.7	
7	32.7	22.8	97	60	9	7	------	●² d a.
8	32.2	23.1	96	61	6	5	------	
9	32.2	22	96	58	6	6	------	
10	33.2	22.2	96	62	7	5	21.8	●² ⊤ p.
11	31.8	23.1	96	60	6	5	23.4	●² p.
12	32.7	21	96	59	5	6	------	
13	33.2	19.1	95	49	5	7	26.7	●² p.
14	33.2	21.2	96	64	6	7	------	⊤ p.
15	33.2	21.8	98	58	5	6	------	
16	32.9	21.9	96	56	5	6	------	
17	33.5	20.8	94	52	6	5	------	
18	34.7	21	91	54	6	7	------	
19	34.7	23.1	91	49	6	5	------	
20	34.7	23.5	94	63	6	8	58.4	⊤ ●² p.
21	32	23.5	96	75	10	9	30.5	●² p.
22	32.7	22.9	96	75	6	9	35.6	d a. ●² p.
23	32.8	21.4	96	59	7	6	------	
24	32.5	23	91	65	5	6	24.4	● p.
25	31.2	22.9	96	64	6	7	------	
26	32.3	22.6	96	59	6	6	------	
27	34.2	23.8	96	58	5	6	16	● p.
28	32	23.9	96	78	5	7	------	d p.
29	32.5	21.8	96	54	6	5	------	
30	33.1	21.9	96	51	6	6	------	
Mean	33.1	22	95.1	59	6.1	6.3	------	
Total	------	------	------	------	------	------	268.5	

[a] 22 days of observation.

Meteorological data for third and fourth class stations—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33		91	59	4	8		
2	32.1		91	60	9	7	9.4	⌐⊻² ● p.
3	33		97	65	7	5		
4	33.5		91	68	6	8	.8	⌐⊻² d p.
5	33		95	62	9	7	4.6	↘ p.
6	34		96	58	8	6		● a. ↘ p
7	33.4		95	63	6	4		↘ p.
8	33.8		96	66	8	7	52.1	⌐⊻ p.
9	33.2		95	69	9	6	7.4	●² a. ⌐⊻ p.
10	33		96	72	8	6	2.5	● a. ↙° ●° p.
11	33.4		96	66	5	7	1.3	●° ⌐⊻ p.
12	34		96	61	5	6		↘ p.
13	35		87	55	4	7		
14	35.4		87	60	3	5		⌐⊻ p.
15	34.8		90	55	7	4		↘ p.
16	34.5		91	55	5	7		↘ p.
17	34.2		83	58	6	4	25.9	●² p.
18	34		91	61	7	6	.8	●° p.
19	34.2		87	61	3	7	.5	⊕ ○ a. d p.
20	33.4		91	63	5	6		
21	32.5		83	61	4	7		⊤ p.
22	34		85	65	5	8	1.8	⊤ ●° p.
23	33.4		92	67	6	9	20.3	⌐⊻² ● p.
24	32		93	65	7	5		↘ p.
25	33		85	61	4	8	1.3	●° a. ⌒° ⌐⊻ p.
26	32.5		92	71	9	9		
27	33		93	63	8	7		⌒² p.
28	33.2		92	69	8	4	11.4	● p.
29	34		95	61	9	6	.8	
30	34.2		86	53	8	4		d a. ☋ ☋ p.
Mean	33.6		91.3	62.4	6.4	6.3		
Total							140.9	

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.9	20.4	91	59	1	3		☊ a.
2	33	22.2	82	57	3	3		☊° a.
3	33	22	83	55	2	2		☊° a.
4	32.8	22.9	82	63	4	3		☊° a.
5	32.3	22.8	91	59	4	4		☊ a.
6	32.4	21.5	74	58	3	6		☊° a.
7	33.9	21	76	45	3	4		☊ a.
8	33.8	22.4	83	56	0	2		☊° a.
9	33.6	23.3	83	59	2	3		☊° a.
10	33.5	23	89	64	2	3	0.3	☊ a. ⌐⊻ d p.
11	33	23	89	62	2	3		
12	33.7	22	81	47	2	1		
13	32.9	21.4	78	59	2	2		☊° a.
14	33	23.3	79	61	2	3		☊ a.
15	32.6	22.6	84	59	2	2		☊ a.
16	32.9	22.6	81	57	0	3		☊° a.
17	32.9	23.9	84	53	2	1		☊ a.
18	33.4	24.2	82	53	2	3		☊ a.
19	33.6	22.7	82	64	1	2		☊ a.
20	33.9	23.2	80	50	1	2		☊° a.
21	34.6	23	84	61	3	4	1.5	☊° a. d p.
22	34.4	24.6	97	55	2	4		☊ a.
23	34.2	24.2	86	55	4	5		☊° a. d° p.
24	33.5	21	84	59	1	3		☊ a.
25	33.1	23.2	83	56	4	4		☊° a.
26	32.1	23.9	82	65	10	9		☊ a.
27	32.5	24.2	90	77	8	9		☊ a. d° p.
28	33.4	23.9	85	62	2	1	7.9	⌐⊻² ● p.
29	33.5	24	95	61	4	3		☊² ≡° a.
30	33.4	23.6	88	60	2	3		↘ p.
Mean	33.3	22.9	84.3	58.4	2.7	3.3		
Total							9.7	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.5	22.2	90	74	10	8	0.3	d° a. ●° a. p. d p.
2	30.1	22.8	88	58	6	7		☊ d° a. ●° p.
3	31	21.1	95	58	1	5	1	☊ a.
4	29	22.7	94	78	5	8	6.8	●° a. p.
5	30.1	21.4	95	62	0	4		☊² ≡° a.
6	29.5	22.3	97	67	6	8		☊ a. ☋ p.
7	29.6	21.4	96	66	5	4		☊² ≡° a.
8	31.3	21.1	93	67	4	3		☊ a. ⊤ p.
9	32.8	23.7	93	84	0	9	3.6	☊ a. ●° ⌐⊻² p.
10	30.8	23.7	91	88	1	10	26.4	☊ a. ● a. p. ⊤ ↘ p.
11	30.6	23.2	94	69	4	4	1.8	☊² d° a. d ●° ⌒ p.
12	32.5	21.9	92	54	1	5		☊² a. d° p.
13	32.5	21.4	88	68	1	8	9.7	☊ a. ● p.
14	31	23.3	90	78	6	8	.1	☊² a. ●° p.
15	33.3	22.4	92	60	1	7	5.6	☊ a. ↙ ● p.
16	31.5	22.4	99	65	4	4	1	☊ a. ●° p.
17	32.7	22.3	92	71	0	7		☊ a. d p.
18	33	23.7	90	74	5	7	.5	☊ a. ●° p.
19	34.3	22.9	90	59	0	6		☊ a.
20	34.3	23.9	91	60	1	4		☊ a. d° p.
21	32.5	22.1	92	61	9	9	3.8	☊ a. p° ●° ⊤ p.
22	33.8	24.2	90	64	5	7		☊ p° a.
23	34.2	24.4	90	64	5	4		☊ a.
24	31.5	22.8	90	83	2	10	4.3	☊ a. ●° a. p.
25	32	23	92	65	8	7		☊ d° a. p° a. p.
26	28.6	23.6	94	78	9	10	3.3	●° a. p. ⌐⊻ p.
27	33.6	23.9	94	65	10	7	.1	☊ a. ⊤ ●° p.
28	34.3	24.6	92	85	7	9	11.7	☊ a. ⊤ ● p.
29	32.6	24.7	92	85	8	9	11.5	☊ ⌒ d° a. ● p.
30	33.6	23.1	91	56	2	7	6.1	☊ a. ⊤ ● p.
Mean	31.9	22.9	92.2	68.9	4.2	6.8		
Total							97.6	

DUMAGUETE.

[ϕ=9° 18′ N; λ=123° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	23.2	69	67	3	3		d p.
2	29.7	25.6	77	74	10	10		
3	30.3	23.2	78	72	4	3		
4	30.2	25.1	73	88	5	10		⌒° ☋° ↙° p.
5	31	24.2	80	77	9	7		↘ p.
6	31.2	23.1	80	78	10	7		○° a.
7	30.3	23.8	82	72	10	10		
8	30.3	24.2	82	78	10	7		
9	30.9	25.3	80	74	10	6		↘° p.
10	30.8	26.3	86	73	10	10		↘ p.
11	30.7	25.8	83	77	8	4		↘ p.
12	30.9	25.2	81	56	10	10		○ p.
13	30.7	24.2	70	64	10	7		
14	30.1	26.1	75	73	8	7		↘° p.
15	30.8	25.8	75	68	3	3		
16	30.2	24.2	75	67	10	3		
17	30.1	24.2	74	69	10	2		∞ p.
18	31.3	24.8	72	67	4	3		∞ p.
19	31.1	26	77	72	3	3		
20	30	26.2	79	73	7	2		
21	31.1	25.8	75	73	4	8		↘° d° p.
22	31	26.2	83	71	10	7		
23	30.7	25.8	79	73	7	4		☋ p.
24	29.6	25.8	76	72	4	3		
25	31.3	26.2	73	69	9	4		
26	32	26	66	63	8	10		d° p.
27	30.7	25.8	87	72	10	9		⌐⊻ d° a. ↙° p.
28	32	25.3	83	74	9	10	0.5	⌒° ↙° ●° p.
29	30.4	25.7	78	76	10	6		
30	30.5	26.2	76	73	10	5		
Mean	30.7	25.2	77.5	71.8	7.8	6.1		
Total							.5	

Meteorological data for third and fourth class stations—Continued.

YAP (WESTERN CAROLINES).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.2	.....	80	68	7	9	1.3	●° a. ◠ p° p.
2	30.1	.....	85	79	10	9	7.1	●° a. ● p.
3	30.6	.....	77	66	3	8	.5	● a. p° p.
4	30.4	.....	87	90	10	10	19.6	●° a. p. ↓ ● d p.
5	30.2	.....	85	73	10	10	2	
6	27.9	.....	93	80	10	10	8.2	●° d a. p p.
7	30.1	.....	89	70	10	7	.....	● a.
8	30.6	.....	87	75	10	8	.....	⌐◪ p.
9	30.1	.....	78	60	5	7	.....	
10	29.7	.....	83	73	7	9	.....	
11	30.4	.....	74	69	9	8	.....	
12	32.1	.....	84	61	5	8	1.3	d ⌐◪° ●° p.
13	30	.....	79	79	10	9	.3	⌐◪ p° a. d p.
14	29.8	.....	77	69	10	9	.8	●° a. p° p.
15	30.1	.....	83	69	10	6	1.3	p° p.
16	.....	.....	88	66	10	9	2.3	●° a.
17	.....	.....	81	72	10	9	2.8	●° a. ◠ p.
18	.....	.....	83	64	10	8	.....	
19	.....	.....	82	78	9	10	5.6	●° a. p. d° p.
20	.....	.....	86	74	9	7	.....	● a. p p.
21	.....	.....	81	73	9	8	2.8	
22	.....	.....	85	68	10	5	.....	●° a. ⊽ p.
23	.....	.....	76	77	10	10	1	↶ p° p.
24	.....	.....	91	78	10	10	11.7	●° a. ● p.
25	.....	.....	96	80	9	6	10.2	◠ a. ●° d a. p.
26	.....	.....	95	75	10	6	.....	● ◠ p° a. ⊽ p.
27	.....	.....	84	64	8	8	.....	
28	.....	.....	83	70	2	7	.....	
29	30.5	.....	80	72	7	9	.5	
30	30.6	.....	85	73	10	10	.....	●° a. ↶ p.
Mean	30.2	.....	83.9	72.2	8.6	8.3	.....	
Total	.....	.....	.....	.....	.....	.....	79.3	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.8	22	96	70	6	7	3.6	● a. d a. p.
2	29.7	22.8	95	70	9	4	.1	●° d° a.
3	30.1	22.3	92	73	7	3	12.2	d a. p. ◠ ●° p.
4	30.1	22.7	96	83	10	8	6.9	d a. ● a. p. d° p.
5	29.8	22.7	97	78	8	6	.....	d a.
6	29.3	21.9	96	81	6	8	.....	Ω² a. ↶° p.
7	29.4	22.2	97	74	3	4	.....	Ω² a. ↶ p.
8	29.8	23.1	96	78	6	3	.....	Ω° a. ↶° p.
9	31.1	23.6	97	77	2	6	.8	Ω° d a.
10	27.7	24.1	98	82	8	7	30.4	d ● a. p.
11	30.5	23.2	97	73	6	4	2.5	Ω ≡ ●° a. d p.
12	30.7	21.3	91	65	4	4	.....	Ω° a.
13	31	21.2	91	73	2	7	3	d° ●° p.
14	28.8	23	96	85	6	9	8.6	● ≡° d a. ● d° p.
15	30	22.4	91	71	3	6	12.2	d a. d° ◠° ● p.
16	30.2	22.2	93	71	6	7	.....	● a.
17	30.7	22.4	96	75	3	7	.....	Ω° a.
18	30.8	23	93	75	9	5	2.5	d° ● a. p° p.
19	31.1	23.6	93	80	4	8	1.3	Ω a. d ◠ ●° p.
20	30.6	25	89	69	5	3	.....	p° a. d p.
21	31	25.4	86	78	8	6	1.9	●° d a. p.
22	31.5	25.5	90	77	5	5	.....	●° d° a.
23	30.8	26.2	83	70	4	5	.5	d ●° p.
24	27.8	.....	95	92	5	10	19.3	Ω d° a. ●° a. p. ● p.
25	30.6	23.9	96	75	8	4	.....	● a.
26	30.2	24.2	93	90	9	10	13.2	d a. ●° a. p. ↶° p.
27	30.6	24.1	96	81	8	9	.3	● a. ◯° a. p. ⊤° d
28	31.2	24.3	97	79	6	6	1.8	d a. p. ◠° ●° p.
29	31	25.2	86	70	5	4	.....	
30	31.6	23.1	92	77	3	6	.....	Ω a. d° p.
Mean	30.2	23.3	93.5	76.4	5.8	6	.....	
Total	.....	.....	.....	.....	.....	.....	121.1	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32	21.6	91	81	10	10	12.2	p d a. ↶° p.
2	31.8	21.6	90	62	10	4	.....	↶² ↘ p.
3	31.8	22	88	81	10	10	.....	↘ p.
4	31.6	21.4	90	77	10	10	13.2	◠ d p a.
5	31.8	22	88	76	10	10	.....	
6	31	21.8	94	81	10	10	.....	
7	32.5	21.4	91	81	10	10	.....	
8	32.6	22	91	76	10	10	.....	↘ p.
9	30.3	22.1	90	76	10	10	.....	
10	31.5	22.1	85	78	10	10	.....	d ⊤° p.
11	31.6	24	92	72	10	10	.....	
12	32.5	21.6	90	65	10	7	.....	
13	32.8	21.6	90	70	10	8	.....	
14	32.8	22	91	71	10	10	8.1	● a. ↶ p.
15	31.5	22.1	90	68	10	8	10.9	● a. d ◠ p.
16	31.2	23	91	75	10	10	.....	
17	32	22.8	88	73	10	10	.....	
18	32.6	23	91	78	10	6	.....	
19	33.4	23	91	72	10	5	.....	
20	33	24.8	90	60	10	4	.....	
21	33.3	24	85	69	10	6	.....	d p.
22	33.4	24.6	90	67	10	8	.....	
23	33	24.6	90	69	10	5	.....	
24	33	23.2	92	72	10	10	.....	
25	33	23.2	93	73	8	5	.....	
26	32.5	22.6	90	72	10	10	.....	d ⌐◪² p.
27	31.5	22.6	90	83	10	10	.....	⊤° d a. d ◠ ⊽ p.
28	32	24	87	78	10	10	.....	d ↶ ↘ p.
29	32.5	24.4	87	75	10	5	.....	↶ ↘ p.
30	32.9	24.7	89	66	10	10	.....	↘ ↶ ⊽ p.
Mean	32.2	22.8	89.8	73.2	9.9	8.4	.....	
Total	.....	.....	.....	.....	.....	.....	44.4	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	.....	23.7	.....	47	0	1	.....	
2	34.4	21.6	76	53	0	8	.....	
3	34.4	21.7	80	56	0	4	.....	
4	33.9	22.1	76	58	0	2	.....	
5	33.8	24	77	61	0	8	.....	
6	33.9	23.1	81	61	10	5	.....	
7	34	23.5	82	58	3	6	.....	Ω² a.
8	34.3	22.4	82	62	0	9	.....	Ω² a.
9	34.2	22.7	79	57	3	7	.....	⊤ ◠ p.
10	34.2	24	82	61	3	8	.....	Ω² a.
11	34.8	22.5	83	50	4	2	6.6	Ω² a. ↘ p.
12	33.3	24.2	92	62	10	6	.....	● ⌐◪ ◠ a.
13	33.8	22	82	56	10	6	.....	
14	34.8	23.1	84	53	0	1	.....	Ω a.
15	34.8	21.9	74	48	0	1	.....	Ω² a.
16	34.7	21.9	78	52	5	7	.....	Ω² a.
17	34.8	22.1	83	53	0	1	.....	Ω² a.
18	34.9	21.8	74	53	9	1	.....	Ω² a.
19	34.8	22.4	84	57	0	1	.....	Ω² a.
20	35.3	23.1	86	56	0	3	.....	Ω² a.
21	34.9	22	86	52	0	0	.....	Ω² a.
22	35.9	24.5	80	55	7	2	.....	Ω° a.
23	35.8	23.5	76	52	0	0	.....	Ω° a.
24	35.3	24.1	69	56	0	1	.....	Ω° a.
25	34.5	23.4	86	53	1	6	.....	Ω² a.
26	35.8	22.5	79	50	0	2	.....	Ω° a.
27	34.7	25.6	80	81	10	10	2.3	● p.
28	34.2	24.4	89	75	0	9	.8	●° ⊤ d ◠ p.
29	34.9	24.6	88	60	3	8	.....	⊤ p.
30	34.8	23.9	86	63	4	9	.....	Ω² a.
Mean	34.6	23.1	81.2	57	2.7	4.5	.....	
Total	.....	.....	.....	.....	.....	.....	9.7	

Meteorological data for third and fourth class stations—Continued.

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	25.1	87	62	9	3	------	☊ a.
2	32.3	25.4	85	67	9	6	------	☊ a.
3	32	25.6	81	66	9	5	------	☊ ☊ a.
4	32.5	25.6	80	62	9	7	------	☊ ☊ a.
5	32.3	24.7	92	63	9	6	------	☊ ☊ a.
6	32.3	26.1	86	62	9	7	------	☊ ☊ a.
7	31.9	25.9	84	68	9	7	------	☊ ☊ a.
8	32.5	26	86	62	8	6	------	☊ ☊ a.
9	32.6	26.1	87	67	8	5	------	☊ ☊ a.
10	31.4	26.5	85	65	9	6	------	☊ ☊ a. ☇ p.
11	32.2	26.3	86	59	8	7	1.3	☊ ☊ a. ☇ p.
12	31.7	24.6	88	65	9	8	------	● ☊ a. ☇ p.
13	32.8	25.6	82	61	8	7	------	☊ ☊ a.
14	33.4	26.3	83	61	9	7	------	☊ ☊ a.
15	32.8	26.3	78	58	9	7	------	☊ ☊ a.
16	33.2	25.9	80	56	9	7	------	☊ ☊ a.
17	32.9	26	82	58	9	7	------	☊ ☊ ☊ a.
18	32.9	25.7	80	61	9	8	------	☊ ☊ ☊ a.
19	33	26.2	86	64	9	7	------	☊ ☊ a.
20	33.7	26.1	87	62	9	3	------	☊ ☊ a.
21	33.2	26.3	85	58	9	4	------	☊ ☊ a.
22	33.3	26.8	79	61	9	4	------	☊ ☊ a.
23	33.8	26.6	84	55	9	4	------	☊ ☊ a.
24	33.9	26.6	86	56	9	5	------	☊ ☊ a.
25	33.6	26.3	81	54	9	4	------	☊ ☊ a.
26	33	26.6	75	56	9	2	------	☊ ☊ a.
27	32.8	26.9	84	63	10	4	------	☊ ☊ a.
28	33.3	27	84	65	9	5	------	☊ ☊ a. ☇^{2} p.
29	34.7	26.6	90	66	9	5	------	☊ ☊ a. ☨ p.
30	32.5	25.6	90	68	10	5	6.4	☊ ☊° d° ● p.
Mean	32.8	26	84.1	61.7	8.9	5.6	------	
Total	------	------	------	------	------	------	7.7	

GUIUAN.

[ϕ=11° 03′ N; λ=125° 43′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.2	24.3	77	69	2	7	------	●° a.
2	30.4	24.4	80	63	6	3	------	
3	30.3	22.7	91	64	3	2	------	
4	30.4	24.6	83	79	4	8	1.3	p p.
5	30.8	22.3	94	68	7	7	------	☊ a.
6	30.9	21.8	96	61	4	2	------	☊ a.
7	31.8	22	95	62	2	2	------	☊ a. ☇° p.
8	32.2	21.9	96	65	4	1	------	☇ p.
9	31.6	23.2	96	69	6	6	4.6	p° a. ☇ ● p.
10	30.4	24.2	93	92	7	9	14.5	● a. p. p p.
11	30.2	23.4	97	70	10	8	------	● a. ☇^{2} p.
12	30.3	21.7	96	57	3	2	8.4	p^2 p.
13	30.2	23.4	91	72	9	2	1	● a. ⌒^{2} p° d p.
14	30.2	23.5	86	70	9	5	------	p° a. ⊕ ☊ p.
15	30.5	25.4	79	70	6	5	.8	●° p.
16	30.7	24.2	80	67	8	6	------	
17	30.4	23.3	83	69	5	6	.8	p° p.
18	31.2	21.7	97	69	3	6	.3	☊ p.
19	31	22	91	67	8	2	1.2	p° ⌒ a. p p.
20	30.7	25.4	84	68	3	3	------	
21	30.5	25.7	78	74	1	7	9.5	● p.
22	31.1	24.6	90	70	8	3	------	d° p.
23	30.8	25.8	83	69	2	2	------	☊ p.
24	30.7	22.4?	81	66	8	1	------	
25	30.9	25.2	82	66	6	2	------	⊽ p.
26	30.9	24.5	77	69	8	7	5.6	●° p.
27	------	24.7	96	90	10	10	4.8	●° ⌣^{2} p.
28	30.4	23.8	97	78	4	8	3.8	●° ⌒^{2} p a.
29	31.1	24.3	88	71	1	3	.5	● a. ☊ p.
30	31.4	22.3	97	71	3	3	------	●° a.
Mean	30.8	23.6	88.5	69.8	5.3	4.6	------	
Total	------	------	------	------	------	------	57.1	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.7	22.4	98	67	5	8	7.9	●° ≡ a. ● p.
2	29.8	22.7	97	69	7	7	2.8	≡ ●° a. d ⌒° p.
3	30	22.3	96	68	6	6	2.3	≡° ● a. d° ⊂° ●° p.
4	29.6	21.8	97	73	9	7	19.3	≡ ● a. ●° p.
5	29.6	21.5	98	69	4	6	1	☊ ≡ ●° a. ◯° ⊂ p.
6	30.4	21	96	67	5	5	------	☊ ☊ ≡° a. ☇ p.
7	31.4	21.3	95	72	3	5	------	☊ ☊ ≡° a. d° p.
8	30.6	21.4	97	74	2	4	------	☊ ☊ ≡ a. ☇ p.
9	30.7	22.4	97	70	7	7	.3	☊ ☊ ≡ a.
10	30.3	23	96	76	9	7	9.2	≡° d a. ● a. p.
11	30.2	24	97	67	9	8	2.6	≡ a. ●° a. p. ◯ p.
12	30.5	21	96	64	5	5	.8	☊ ≡° a. ⌒ ● p.
13	30.3	24	79	67	6	5	7.6	●° a.
14	30.4	24.5	90	68	7	6	2.6	●° a.
15	30.7	22.5	85	60	7	5	1.8	●° a. ⌒ d^2 p.
16	30.3	22.6	97	70	7	8	4.9	☊ ≡ ● a. ●° a. p.
17	30.1	21.6	98	74	6	5	.3	☊ ☊ ≡ a.
18	30.5	21.7	96	63	8	5	.3	≡° ⌒ ●° ◯ a.
19	30.7	22.1	98	68	6	7	.8	☊ ≡ d a. ●° d° p.
20	31	26.4	80	65	6	6	------	
21	30.8	26.4	80	69	5	6	2.8	⊽ p.
22	31	26	88	64	7	4	.3	● ⌒ ◯ a. ⊂ p.
23	31.1	26	83	62	6	4	------	d° a. ⊂° p.
24	30.9	23.2	93	61	7	5	------	☊ a. ⊽° p.
25	31	23.4	77	60	6	5	1	d° a. ⊂° p.
26	30.2	23	96	62	7	8	45.7	●° a. d^2 p.
27	27.7	24.4	92	87	10	9	28.7	●^{2} ☒ a. ⌒° ● p.
28	30.9	24	96	80	8	8	9.1	≡° a. ● ⌒ a. p. d° p.
29	30.2	23	93	70	8	6	------	●° d a. ⊂ p.
30	30.5	22.7	95	67	7	6	------	☊ ≡° d a.
Mean	30.4	23.1	92.5	68.4	6.5	6.1	------	
Total	------	------	------	------	------	------	152.1	

MASBATE.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	22.2	------	------	6	3	------	
2	32.5	23	------	------	6	3	------	
3	32.8	24.4	------	------	7	3	------	
4	32.8	23.4	------	------	4	7	------	
5	31.6	23.6	------	------	8	6	------	
6	32.4	23.8	------	------	8	6	------	
7	30.5	23.6	------	------	8	3	------	
8	32	23	------	------	8	8	------	
9	32.2	23.8	------	------	8	8	------	
10	32.8	25	------	------	9	6	------	
11	33	24.2	------	------	6	9	2.5	
12	30?	24.2	------	------	7	4	------	
13	32.2	24.6	------	------	9	8	1.3	
14	33.6	25	------	------	7	4	------	
15	33.2	23.5	------	------	9	4	------	
16	32.6	24.2	------	------	8	8	------	
17	31.5	24.4	------	------	8	4	------	
18	32.8	23.6	------	------	8	6	------	
19	32.4	24.8	------	------	8	6	------	
20	33.4	25	------	------	8	6	------	
21	34.2	25.2	------	------	8	7	------	
22	34.2	25.6	------	------	8	6	------	
23	33.4	24	------	------	9	6	------	
24	32.6	24.5	------	------	8	6	------	
25	33.2	24.6	------	------	9	7	------	
26	32.5	23.6	------	------	8	6	------	
27	29.6	25.2	------	------	9	9	5.4	
28	33.5	25	------	------	4	8	------	
29	33	25.2	------	------	8	4	------	
30	33.4	24.5	------	------	8	3	------	
Mean	32.5	24.2	------	------	7.6	5.8	------	
Total	------	------	------	------	------	------	9.2	

Meteorological data for third and fourth class stations—Continued.

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.1	23.4	83	58	6	4	------	
2	34.4	23.4	79	57	5	1	------	
3	35.2	23.9	80	45	9	0	------	
4	34.8	23.2	81	57	4	1	------	
5	35.2	24.5	83	49	4	0	0.3	
6	35.3	23.7	90	56	7	2	------	●° a.
7	35.6	22.9	94	51	4	0	------	
8	36	23.8	85	51	4	0	------	
9	35.7	24	86	52	8	4	------	
10	35	25.2	85	54	7	1	------	
11	37	23.6	85	49	10	0	3.8	⌐ p.
12	35.1	24.2	84	61	10	9	1.3	●° d a.
13	35.1	23.9	81	65	9	6	8.9	p° a. ● p.
14	33.5	23.4	96	61	10	6	.5	●° a.
15	35.3	24.3	80	55	4	1	------	
16	34.8	24.4	82	54	4	3	.5	●° p.
17	34.8	24.2	82	50	3	0	------	
18	35.5	24.3	82	51	1	1	------	
19	37	22.8	85	50	3	2	------	
20	34.8	24.4	84	60	3	2	------	
21	35.7	25	82	53	2	0	------	d° a.
22	36.3	25.8	89	57	9	1	------	p° a.
23	36.7	25.1	82	55	2	1	------	
24	37	25.1	81	53	5	0	------	
25	36.7	25	81	57	3	3	------	
26	------	------	82	------	3	0	------	
27	------	------	83	------	5	0	1.3	d p p.
28	35.7	25.5	90	58	6	2	------	d° ◠ p° a.
29	37.5	27	81	62	7	5	------	d° a.
30	36.7	26.8	87	55	8	2	------	
Mean	35.6	24.4	84.2	54.9	5.5	2	------	
Total	------	------	------	------	------	------	16.6	

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.5	21.5	93	62	4	4	0.8	☊ a. ●° p.
2	30.2	21.5	97	66	3	4	------	d a.
3	30	22.3	91	64	1	9	------	
4	29.9	21.9	98	69	3	4	------	p° ◠ a. d° a. p.
5	30	21.3	98	65	4	6	------	p° a.
6	31	21.1	98	75	3	7	------	↙° p.
7	31.5	22.7	94	85	8	7	4.1	d° p° ●° a. d² p.
8	30.1	23.1	97	77	3	5	2.6	◠° ●° a. ↙ p.
9	30.7	23	98	73	6	7	2.3	p ◠ d a. d° p.
10	31.5	22.5	99	68	4	3	------	◠° a.
11	31.9	22.6	97	72	7	9	------	d° a. p.
12	30.6	21.1	99	58	2	2	5.8	● p.
13	31.7	22.9	96	67	8	4	4.6	d° a. p. p° p.
14	30.8	23.2	91	59	8	2	1.6	●° a. p.
15	30.6	21.6	95	65	2	3	------	↙° p.
16	31.4	20.9	98	63	1	2	.8	p ●° a.
17	31.6	20.7	96	59	1	1	------	
18	31.9	21.5	98	62	1	6	------	●° a.
19	31.4	21.5	96	63	1	2	.3	p p.
20	32.1	23.4	96	63	1	3	------	d° a. p.
21	32.3	24.4	86	65	1	3	4.8	d° a. p. ●° p p.
22	32.6	25.1	96	63	3	3	------	◠ d ●° a. d° p.
23	32	23.5	96	64	4	2	------	
24	32.2	20.7	96	59	1	1	------	
25	32.7	21.9	96	56	0	2	1.3	
26	32.3	21.4	97	59	3	8	4.8	●° a.
27	32.9	24.9	96	96	10	10	31.8	⊤ a. ● a. p. d p.
28	30.3	23.4	97	93	3	10	11.7	● p a. d ⊤ a. p.
29	30.4	21.8	90	69	1	2	------	◠ a.
30	32.1	22	97	65	1	1	------	
Mean	31.3	22.3	95.7	67.5	3.3	4.4	------	
Total	------	------	------	------	------	------	77.3	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.2	23.2	97	79	10	8	4.8	● a.
2	30	23.7	85	76	7	7	------	
3	30	25.5	82	73	7	10	------	
4	30.5	25.8	85	77	7	7	------	
5	30.4	24	92	78	9	9	------	
6	29.8	23.2	97	86	7	7	7.3	● a. d p.
7	32.3	21	94	66	6	8	------	◠ a.
8	30.5	20.9	98	80	10	6	------	
9	30	22.2	98	82	9	6	------	
10	30.6	24	96	78	7	7	------	
11	31	23.3	95	85	10	10	------	d p.
12	30.3	23.9	89	80	8	7	8.4	
13	29.8	23.8	95	80	9	8	6.6	● a.
14	29.1	24.2	92	82	8	7	5.3	● a.
15	29.8	24.5	90	79	8	7	1	d a.
16	30.6	24	96	77	9	6	------	d a.
17	29.7	26.1	84	74	7	6	------	
18	30.8	25.4	93	78	8	6	------	
19	31.1	26.3	91	80	7	8	18.8	● p.
20	29.8	24.5	94	82	9	6	------	● a.
21	30.4	26.4	90	84	8	7	------	
22	30	25.9	91	82	9	7	5.6	
23	30.2	25.6	98	82	8	8	------	● a.
24	30.2	25.9	92	76	7	5	------	
25	30	26.3	90	79	9	5	------	
26	30.4	23	94	80	6	5	------	
27	28.6	24.7	98	95	7	10	28.5	d ● p.
28	29.7	25.3	99	91	8	10	1.8	●° ⊤ a.
29	30.2	25.5	98	83	8	6	------	d a.
30	30.5	25.9	96	81	7	6	------	
Mean	30.2	24.5	93	80.2	8	7.2	------	
Total	------	------	------	------	------	------	88.1	

SUMAY, GUAM (LADRONE ISLANDS).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	24.6	83	61	5	6	1.3	
2	28.8	24.4	83	70	7	4	------	
3	29.2	24.8	87	70	4	7	------	
4	29.6	24.8	81	66	8	7	1.3	
5	29.8	24.8	76	66	6	7	------	
6	29.4	24.4	83	70	8	7	------	
7	30.2	25	76	65	6	8	------	
8	31.2	23.8	83	62	5	5	------	
9	29.8	22.8	80	63	10	5	1.3	
10	29	24	83	70	8	8	1.3	
11	29.6	24.8	84	70	5	10	2.5	
12	31	24.4	88	64	6	8	------	
13	29.6	24.4	87	68	6	8	5.1	
14	28.2	21.4?	80	70	8	10	------	
15	28	24.8	84	74	6	10	.8	
16	28.4	22.8	88	77	6	9	9.1	
17	29.4	23.2	87	80	10	10	1.3	
18	30.4	25	84	64	6	3	------	
19	30.2	25.6	82	73	8	10	3.8	
20	30.4	24	85	71	8	9	1.3	
21	30.2	25	84	71	8	9	------	
22	30	25	88	71	10	8	------	
23	30.4	24.2	88	64	10	10	------	
24	30	24.6	84	67	6	7	------	
25	31	24	84	65	6	6	------	
26	31.2	25.2	84	65	5	4	------	
27	32.4	24	84	59	6	4	------	
28	31.8	24.4	84	63	8	5	------	
29	31.2	24.8	81	58	8	5	------	
30	30.6	24.8	84	64	6	6	------	
Mean	30.1	24.3	83.6	67.4	7	7.2	------	
Total	------	------	------	------	------	------	29.1	

Meteorological data for third and fourth class stations—Continued.

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	23.6	86	60	10	3	------	
2	33.2	24	87	47	8	2	------	
3	32.9	22.3	92	46	4	2	------	
4	33.5	25.1	77	58	10	2	9.1	
5	33.1	23.4	95	59	10	9	9.9	● a.
6	33.8	22	98	62	10	4	1.8	●° p.
7	33	22.1	89	54	8	3	.3	
8	32.8	23	90	55	10	7	------	d a.
9	32.7	22.4	89	55	10	10	------	
10	33.6	23	90	54	10	4	------	
11	34.5	21.6	91	50	10	4	------	
12	32.6	24.8	88	77	10	10	------	○ a.
13	32	23.6	91	59	10	10	10.9	p² ☾ p.
14	33	23.9	92	62	10	10	7.3	d a. ●° p.
15	32.2	23	91	64	4	4	------	
16	32.5	23.7	92	53	10	8	------	
17	33.1	23.1	94	58	7	3	------	
18	32.6	23.6	87	57	10	3	------	
19	33	21.5	87	56	3	3	------	
20	33.7	23.2	86	57	9	5	3.8	●° p.
21	35	24.3	86	41	9	3	------	
22	34.1	24.6	90	54	8	3	.3	●° p.
23	34	25.4	92	56	8	3	1.5	p p.
24	34.2	24.5	91	50	10	3	------	
25	33.8	23	84	55	9	3	.3	●° p.
26	34	22.4	85	55	8	3	------	
27	35.7	21	91	52	8	4	------	
28	34	26.5	78	63	10	5	20.8	● ⊤ p.
29	33.8	24.9	94	54	10	4	1.5	d° ◠² a.
30	33.5	25.4	86	57	3	4	------	
Mean	33.4	23.5	89	56	8.5	4.7	------	
Total	------	------	------	------	------	------	67.5	

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.8	20	95	62	4	6	0.3	☊² p° a.
2	32.4	20	98	60	5	4	------	d a.
3	32	20.2	83	57	3	5	------	☊ a. ☋ p° p.
4	31.8	21	96	67	9	8	1.8	●° a. ☋ p.
5	32	20.2	96	68	3	7	------	☊² a. ☋ p.
6	30.5	21.5	96	81	9	10	.8	☊° a. ●° p.
7	31.4	20.5	95	71	2	8	------	☊ a.
8	31.5	20.5	95	83	2	10	1.3	☊ a. p° d p.
9	31.7	21.3	97	72	7	9	------	☊² ≡ a. p° p.
10	32.5	20.5	97	66	5	9	------	☊ a.
11	32	20.6	96	73	3	9	38.9	☊ d° a. p° ⊤ ● p.
12	31.4	22.7	90	67	7	6	3	● a.
13	31.3	22.8	87	69	8	8	6.9	● p. d a. ●° p.
14	31.5	22.8	83	73	10	8	3.9	● a. d° p.
15	32	23.5	85	69	6	7	4.1	d° p° a. p.
16	31.7	22.5	96	70	9	6	------	● ◠ p° a.
17	31.2	20.6	96	68	3	5	------	☊² a.
18	31.5	20.4	96	75	5	5	------	☊² a.
19	31.8	24	85	72	5	5	13.6	
20	32	24	89	72	9	8	------	● ◠ a.
21	32.4	24	83	65	5	4	1.5	
22	32	24	90	75	8	7	1.2	● ◠ p a. d ☋ p.
23	31.8	24	85	68	3	6	------	d° a. ☋ p.
24	31.8	21.5	97	65	8	4	------	☊ p° ◠ a. ☋ p.
25	31.9	21	85?	71	9	8	------	
26	32	21	96	70	7	4	------	☊° a. ☋ p.
27	32.5	22.5	84	69	9	9	11.4	d ☋ ● p.
28	29.5	23	97	95	8	10	30	◠ a. ● d° ⊤ a. p.
29	31.5	24	92	75	6	7	1.5	d a. p. ☋ p.
30	32	22.2	95	73	6	4	.5	☊° a. ☋ p.
Mean	31.7	21.9	91.8	70.7	6.1	6.9	------	
Total	------	------	------	------	------	------	120.7	

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.1	17.7	95	68	3	9	------	d p.
2	32.5	17.5	95	60	2	9	------	
3	32.1	17.7	95	60	2	8	------	
4	33	18.1	97	59	3	9	------	
5	33	19.3	96	57	3	7	------	
6	32.2	19.2	96	63	5	6	------	
7	32.5	22.2	92	60	6	5	------	
8	32.4	19.1	93	62	5	8	------	
9	32.9	20	97	62	8	7	------	
10	32.2	20	97	61	7	5	------	
11	32	19	98	61	6	6	1.1	●° p.
12	32.5	18.9	97	71	10	10	------	
13	31.9	18.7	90	61	10	9	1.8	●° p.
14	33.2	22.2	79	58	9	8	------	
15	34.2	19.4	94	33	8	8	------	d a.
16	32.4	20	95	64	8	9	.5	p a.
17	32.9	19	98	51	2	8	------	
18	33.8	18.4	98	55	3	9	------	
19	34.5	19.5	96	50	4	9	------	
20	33.5	20.6	86	54	10	7	------	
21	34	20	95	62	3	8	------	
22	33	20	95	65	6	8	------	
23	35.1	19.7	96	63	4	8	------	
24	34.2	20	95	56	2	8	------	
25	34.8	18.1	96	43	5	8	------	
26	33.9	18.5	95	53	2	7	------	
27	33.1	18.8	96	66	5	9	3	
28	30	23	95	76	10	10	6.1	●° a. p. ⊤° p.
29	34.5	22.5	97	53	9	8	------	⊤° a.
30	35.4	20.6	96	47	2	6	------	
Mean	33.1	19.6	94.7	58.5	5.4	7.9	------	
Total	------	------	------	------	------	------	12.5	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.4	21.4	90	40	6	6	------	
2	35.4	21.7	91	42	2	6	------	
3	37.4	21.2	87	48	1	3	------	
4	36.5	23.2	82	48	1	5	------	
5	36.8	23.2	83	38	3	5	------	
6	34.4	20.6	86	50	3	6	------	
7	35.6	20	86	54	3	7	------	
8	33.6	21.2	85	54	4	7	------	
9	35.4	19.8	87	49	3	4	------	
10	36.5	22.3	89	47	5	6	------	
11	35.4	22.6	88	46	3	6	------	
12	34.6	22.8	85	65	4	6	------	
13	35.4	24.3	88	44	7	6	------	◠ a.
14	34.7	23.1	82	57	1	6	------	
15	35	21.6	89	49	1	5	------	
16	36.4	22.1	86	41	3	6	------	
17	37.4	22.3	87	37	1	5	------	
18	37.4	22.8	83	38	3	4	------	
19	36.4	21.7	89	36	2	3	------	
20	36.5	23.3	87	47	3	6	------	
21	38.1	24	87	34	2	3	------	
22	37.6	23.2	81	43	3	4	------	
23	36	23.6	84	41	4	5	------	
24	38.3	24.8	85	38	1	4	------	
25	36.2	22.9	86	40	1	1	------	
26	37.3	22.6	90	52	1	3	------	
27	37.8	21.5	88	36	1	1	------	
28	38.6	25.3	85	48	6	6	------	
29	36.9	25.4	86	45	6	4	------	
30	36.8	25.5	86	40	5	5	------	
Mean	36.3	22.7	86.3	44.9	3	4.8	------	
Total	------	------	------	------	------	------	------	

Meteorological data for third and fourth class stations—Continued.

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	19	96	61	10	7	4.1	●☾ a.
2	30	18.4	97	58	10	8	------	☊ a.
3	30.7	20.4	97	58	2	5	------	
4	31.7	20.6	96	60	5	8	------	
5	32	20.9	97	60	7	9	2	p a.
6	29.8	20	96	55	2	7	------	
7	31.8	20.5	97	58	2	5	------	
8	32.1	20.7	97	57	4	8	------	
9	32.6	20.1	98	56	7	2	------	
10	34	21	96	58	8	4	------	d a.
11	33.7	21.4	96	57	8	2	------	
12	34.1	20.9	97	56	7	8	------	┬☾ p.
13	34	21.2	96	57	5	6	------	☊ a. ☾ p.
14	33.6	21.4	97	57	8	8	2.5	●☾ a.
15	33.8	21.7	97	58	2	4	------	
16	33	20.8	96	59	2	6	------	
17	33.3	21	96	56	7	8	------	
18	33.1	21.3	97	55	5	6	------	☊ a.
19	34.4	21	96	58	8	8	3.3	☊ a.
20	34	20.6	98	56	10	8	------	p☾ a.
21	34	20	96	60	2	6	------	
22	33.3	20	97	59	2	5	------	☾ p.
23	33.8	20.4	97	59	7	5	------	
24	33.7	20	96	59	4	8	------	
25	------	20.2	97	59	2	2	------	
26	------	20.1	96	59	5	8	------	☊ a.
27	------	20.7	97	60	2	3	------	
28	------	21	97	61	8	8	1.3	☊ d a.
29	------	20.2	97	57	10	5	------	●☾ a.
30	------	20	97	60	2	7	------	
Mean	32.8	20.5	96.7	58.1	5.4	6.1	------	
Total	------	------	------	------	------	------	13.2	

SANTA CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.7	22	93	58	8	5	1	d a. p.
2	31.5	21.4	90	57	4	5	------	
3	32.6	21	95	48	3	4	2	☊ a. ☾ p.
4	31.7	20.7	95	60	9	4	------	d² a.
5	33	22.2	91	54	2	3	------	☊☾ a.
6	33.4	20.6	96	52	3	4	------	☊ a.
7	32.9	21.2	93	57	3	7	------	
8	32.3	21.4	95	52	4	5	------	☊ a.
9	33.8	19.6	96	44	2	6	------	☊ a.
10	33.4	19.9	97	50	3	4	------	☊ a.
11	33.2	21.9	91	50	3	6	------	☊☾ a.
12	34.9	22.5	93	48	3	5	.5	
13	32.4	22.5	88	57	7	6	.5	d a.
14	31.5	20.8	90	64	6	7	.3	d ☾ a. p.
15	33.7	21.3	90	47	7	5	------	
16	33.5	21.6	96	46	4	7	------	☊ a.
17	33.4	22	94	44	6	4	------	
18	34.2	20.6	94	41	4	4	------	☊☾ a.
19	34.8	22.3	82	43	8	3	1.8	
20	34	23.4	92	50	6	4	------	●☾ a.
21	33.4	23.2	90	48	3	4	------	
22	33.4	22.2	91	50	2	7	------	☊☾ a.
23	33.6	23.2	87	49	2	3	------	
24	33.9	23	93	50	3	6	------	
25	33.7	21	95	48	4	5	------	☊☾ a.
26	34.4	20.6	96	46	1	3	------	☊≡☾ a.
27	33	20.8	95	47	3	5	------	☊☾ a.
28	32.5	21.2	90	64	6	7	3	
29	35.3	24	97	48	7	6	------	●☾ a.
30	35.2	24.8	93	55	5	4	------	☊ a.
Mean	33.3	21.8	92.6	50.9	4.4	4.9	------	
Total	------	------	------	------	------	------	9.1	

ANTIPOLO.

[ϕ=14° 36′ N; λ=121° 10′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.7	23.1	64	44	7	3	------	
2	33	20.5	79	52	9	8	------	
3	34.8	20.9	82	42	1	7	------	
4	34.9	21.2	74	45	1	4	------	
5	35.2	21.7	74	47	1	4	------	
6	35.7	21.8	80	46	3	5	------	
7	32.8	21.7	81	57	7	9	4.1	● a.
8	35.5	21.6	83	37	2	5	------	
9	35.7	20.4	73	44	2	4	------	
10	36.6	22.6	76	43	4	6	------	
11	36	22.3	83	45	2	4	------	
12	36.4	22.8	85	47	2	7	2.3	●☾ p.
13	33.4	21.6	91	48	8	5	------	●☾ ☾ a.
14	32.7	22.5	70	53	5	7	------	
15	33.8	21.3	88	47	10	7	------	p☾ a.
16	35.8	21.9	74	41	1	5	------	☾ p.
17	34.3	21.1	81	47	1	8	------	
18	34.9	22.9	72	39	8	3	------	
19	35.8	23	69	33	1	3	------	
20	35.3	22.5	83	43	1	4	------	
21	36.9	23.4	70	40	1	4	------	
22	36	22.8	66	41	1	3	------	
23	36.6	23.3	87	33	1	2	------	
24	38.4	23.3	71	36	1	2	------	
25	37	23.1	73	33	2	2	------	
26	37.2	22.5	70	41	1	3	------	
27	36.8	22.5	75	35	3	1	------	
28	37	22	74	45	2	6	------	
29	36.8	24	87	46	9	3	------	p ☾ a.
30	37.1	24.2	83	47	7	4	------	☋ p.
Mean	35.5	22.3	77.3	43.2	3.5	4.6	------	
Total	------	------	------	------	------	------	6.4	

IBA.

[ϕ=15° 20′ N; λ=119° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.1	21.5	71	51	1	1	------	
2	33.5	18.7	83	54	1	5	------	
3	33.3	23.4	74	56	8	3	------	
4	34	19.5	91	49	2	4	------	
5	33.4	20.1	89	50	1	3	------	
6	33.6	21.5	90	65	6	5	------	d p.
7	31.6	22.4	93	70	10	10	------	☇☾ p.
8	32.5	21.9	93	62	10	6	1	☇☾ ●☾ p.
9	32.6	22.2	95	63	5	5	------	≡☾ a.
10	33.9	21.2	94	58	4	4	------	☇☾ p.
11	32.8	23	91	68	6	7	------	
12	33	23.4	91	65	5	5	------	☇☾ d p.
13	36.5	24.6	66	55	5	9	------	☾ a. p.
14	33.6	20.5	83	58	4	9	------	
15	36	21.5	68	54	5	10	------	
16	33	20.8	82	59	5	7	------	
17	33	20.5	93	62	2	10	------	
18	33	22.2	67	60	8	4	------	
19	32.8	22.5	81	57	5	6	------	
20	34.5	22.8	85	55	3	10	------	
21	36.4	21.8	75	55	1	3	------	
22	34.6	20.5	95	54	1	2	------	≡☾ a.
23	37.8	23	78	59	2	3	------	
24	34.9	20.9	88	55	2	2	------	
25	34	22.8	79	57	5	4	------	☾☾ p.
26	33.4	21	89	55	3	4	------	
27	36.5	24.5	84	56	4	2	------	
28	34	20.9	87	57	2	2	------	
29	33.8	24.5	78	62	2	3	------	┬☾ p.
30	34.2	20.3?	88	62	7	6	22.9	☇☾ ● d p.
Mean	34	21.8	84	58.1	4.2	5.1	------	
Total	------	------	------	------	------	------	23.9	

Meteorological data for third and fourth class stations—Continued.

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	37.6	19.1	90	39	0	3	------	☊ a.
2	37	18.6	93	37	3	7	------	☊ ☊ a.
3	37.3	19.4	93	41	3	3	------	☊ ☊ a.
4	37.5	20.6	88	41	3	3	------	☊ ☊ a.
5	37.4	22	96	38	9	8	------	☊ ☰° a.
6	37.5	19.8	92	39	3	3	------	☊ ☊ a.
7	37.6	23.8	97	41	10	8	2.3	☊ ☊ ☰ a. ●° d p.
8	37.2	19.7	92	41	4	3	------	☊ ☊ a.
9	38.6	20	94	39	3	3	------	☊ ☊ a.
10	38.4	22.8	95	41	2	3	------	☊ ☰° a.
11	38.5	24	93	40	3	3	------	☊ ☊ a.
12	36.8	23.2	90	43	8	9	------	☊ ☊ a.
13	35.6	21.8	88	41	3	4	------	☊ ☊ a.
14	36	21.2	88	41	3	3	------	☊ ☊ a.
15	35.2	21.1	94	43	2	8	------	☊ ☊ a.
16	36.5	20.8	90	36	3	4	------	☊ ☊ a.
17	38.8	20.2	90	37	2	3	------	☊ ☊ a.
18	36.7	20	89	42	4	8	2.5	☊ ☊ a. ●° p.
19	36.8	19.9	92	39	3	2	------	☊ ☊ a.
20	35.2	19.8	91	46	3	8	------	☊ ☊ a.
21	37.8	20.8	93	39	2	3	------	☊ ☊ a.
22	37.5	20.8	87	39	2	2	------	☊ ☊ a.
23	38.6	20.7	87	37	2	3	------	☊ ☊ a.
24	38	20.8	89	40	3	3	------	☊ ☊ a.
25	38	21.1	93	43	9	3	------	
26	38.2	20.7	92	38	2	3	------	☊ a.
27	38.8	22.5	89	37	4	2	------	☊ ☊ a.
28	38	20.4	90	36	2	8	------	☊ a.
29	38.8	22.2	93	39	7	7	------	d p.
30	38.7	24.2	90	41	9	9	44.2	☇ ● p.
Mean	37.5	21.1	91.3	39.8	3.9	4.6	------	
Total	------	------	------	------	------	------	49	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.3	22	84	76	10	6	------	☊ a. ☿ p.
2	30.7	19.9	95	83	10	2	------	☿ p.
3	31.3	20.2	96	82	10	2	25.9	☊° ☰° a. ☿ ● p.
4	30.2	21.7	97	83	10	10	4.3	☊ ☰ a. ● p.
5	30.6	21.1	98	81	10	1	------	☊ ☰ a. ☿ p.
6	31	21.2	96	-----	10	1	------	☊ ☰° a. d p.
7	31.2	22.7	97	-----	10	10	8.1	● p.
8	30.6	23.1	96	85	10	1	------	☊ ☰° a.
9	31.1	22.2	96	84	10	1	------	
10	31.3	21.5	97	-----	10	1	4.1	☊ ☰ a. ● p.
11	33.1	23.2	97	63	10	10	.5	● p.
12	33.1	22.5	94	68	10	10	4.3	☊ a. d ● p.
13	30.3	23.7	90	73	10	7	3.3	●° a. p.
14	29.7	22.2	95	76	10	10	6.1	☊² a. ● a. p. ⊤ p.
15	29.9	21.1	96	65	10	10	5.1	● a.
16	30.6	20.7	93	61	10	1	.2	☊ a. ● p.
17	29.2	20.9	93	70	10	10	.3	☊ d a. ●° p.
18	31	20.1	94	63	10	1	8.1	☊ d a. ● p.
19	30.5	21.7	96	66	10	1	5.8	☊ ☰° d a. ● p.
20	30.9	22.6	95	71	10	10	10.4	☊ ☰° a. ● a. p. ◠ p.
21	30.8	22	96	64	9	1	10.7	☊ ☰° a.
22	31	21.8	96	69	9	1	3.8	● ☰° ◠ d a. ●° p.
23	30.7	23.4	96	70	10	1	8.4	● ◠ a. ☿ p.
24	31.7	21	95	70	10	1	7.4	☊ ☰° a. ☿ ● p.
25	30.8	22.9	96	70	10	7	1.8	d ● a.
26	31.7	-----	94	65	10	1	------	☊ a. ☿ d p.
27	31.2	22.6	94	70	10	3	.5	☊ d a. ☿² ●° p.
28	31.6	21.2	95	64	10	2	.8	☊ ☰° a. ☿ p.
29	30.1	23.7	96	85	10	9	19.6	● ⊤ a. p. ☇ p.
30	30.2	24	98	80	10	10	9.4	☊ ☰ a. ● a. p.
Mean	30.9	22	95	65.2	9.9	4.7	------	
Total	------	------	------	------	------	------	148.9	

SAN FERNANDO, UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6. a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.6	19.8	82	50	1	0	------	
2	33.5	22.5	82	49	2	1	------	
3	33.1	22.4	82	52	3	1	------	
4	36.1	21.9	81	47	1	0	------	
5	33.4	23.6	86	61	2	1	------	☇° p.
6	33	23.1	86	62	7	1	------	
7	35.7	25.5	79	48	10	1	------	☇° p.
8	34.5	25.8	79	58	10	7	------	☇° p.
9	33.7	25	85	61	10	1	------	
10	34	24	86	63	4	1	------	⊤° p.
11	34.3	24.8	84	56	2	1	------	
12	33.3	23.9	81	61	10	6	------	d° ⊤° a. ☇° p.
13	34.3	23	88	56	3	3	------	
14	34.2	23.5	81	52	1	2	------	
15	34.2	22.4	81	52	2	2	------	
16	32.5	25	75	61	10	2	------	d° a.
17	33.5	23.6	80	55	2	1	------	
18	35.8	24.5	77	59	1	3	------	
19	35.6	25	80	51	3	3	------	
20	35	24.1	79	53	2	7	------	
21	35.4	23.5	79	49	1	1	------	
22	36.6	23.4	78	43	0	1	------	
23	35.5	24.1	87	52	0	4	------	
24	35.1	24.9	85	54	1	0	------	
25	35.4	25.6	74	55	2	3	6.1	☇° p.
26	33.9	24.5	92	58	10	1	.5	d² a.
27	35.8	25.6	71	56	1	1	1	
28	34.3	23.7	89	57	2	1	------	d² a.
29	34.4	24.8	87	60	1	1	------	
30	34.5	25.8	83	61	10	1	------	⊤° ☇° p.
Mean	34.4	24	82	55.1	3.8	1.9	------	
Total	------	------	------	------	------	------	7.6	

ECHAGUE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	35.8	19	91	33	5	4	------	
2	34.3	17.4	90	43	6	8	------	☊° a.
3	35.9	19	87	34	7	6	------	☊° a.
4	35.6	19	93	34	0	7	------	☊° a.
5	36.3	18.3	86	37	2	2	1	☌ ☇ ⊤ d° p.
6	35.3	22.2	96	39	2	2	6.1	☊ a. ☌ d p.
7	32.6	22.3	95	54	10	8	------	☌ p.
8	36	22	90	36	10	4	------	☌ a. p.
9	37.1	20.8	93	34	8	0	------	☌² p.
10	37.1	21.9	92	40	5	1	------	☌² p.
11	36.1	22.4	86	42	8	4	------	☌² p.
12	29.7	21.8	81	79	10	10	5.1	d a. ● p.
13	33.4	21.6	96	54	8	5	.3	p a.
14	33.7	19.4	93	51	4	7	------	
15	34.3	19.2	94	42	0	4	------	☌ p.
16	38.2	18.4	86	26	0	3	------	
17	36.9	18.8	88	39	0	6	------	☌ p.
18	38.3	19.8	91	30	8	2	------	
19	36.8	20	80	35	0	5	------	
20	34.9	20.2	85	45	0	9	------	d° p.
21	37.8	19.9	89	35	3	6	------	☊° a. ☌° p.
22	38.6	19.3	87	24	0	2	------	☊° a. ☌° p.
23	39.5	20.7	85	23	1	4	------	
24	38.8	18.4	81	26	0	3	------	
25	38.5	21.3	82	29	4	4	------	⊕ ☾² p.
26	38.7	21	74	27	4	1	------	⊕° ☾° p.
27	36.5	21.4	75	37	2	6	------	☇ ⊤ p.
28	39.8	21.6	92	21	0	1	------	
29	40.1	22.7	71?	38	1	4	------	⊤ ☇ d° p.
30	39.9	23.8	84	31	8	6	------	☇ ⊤ p.
Mean	36.6	20.5	87.1	37.3	3.9	4.5	------	
Total	------	------	------	------	------	------	12.5	

Meteorological data for third and fourth class stations—Continued.

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.2	22.4	73	48	0	0	------	☊ a.
2	31.3	22.2	84	64	3	2	------	☊ a.
3	31.7	22.1	76	65	3	2	------	☊ a. ⊤° d p.
4	31.4	23.9	77	62	1	0	------	☊ a.
5	31.5	23.1	80	65	2	3	------	☊ a. ☾ p.
6	31.7	25	82	65	7	0	------	☊ a.
7	31.9	24.9	82	62	3	4	------	☊ a.
8	31.8	24.9	84	65	7	6	------	☾ p.
9	31.7	24	82	68	0	3	------	
10	32.8	24	78	61	5	0	------	
11	31.8	25.2	81	63	6	0	------	
12	33.7	25.7	69	48	2	5	------	
13	31.8	25.6	72	67	0	3	------	⊤° ☾ p.
14	32.2	25.5	78	66	1	1	------	☾ p.
15	32.2	25.6	81	69	4	4	------	
16	31.2	26.5	84	67	5	4	------	
17	31.7	24.5	83	68	3	1	------	☊° a.
18	31.7	25.8	83	63	4	0	------	◠ a.
19	31.5	25	80	62	1	1	------	☊ a.
20	32.4	25	80	63	1	1	------	
21	32.7	24.4	79	66	1	2	------	☊ a.
22	31.7	24.2	80	60	3	2	------	
23	32	24.2	78	62	0	2	------	
24	32	24.1	80	63	2	1	------	⊤° p.
25	32.1	24	83	63	3	4	------	◯² a. ☾ d p.
26	32.2	28	85	70	6	1	------	☾ p.
27	32.6	26.1	82	64	2	0	------	
28	32.5	25.8	82	66	6	0	------	d a.
29	32.7	25.7	77	66	4	0	------	
30	33.5	25.7	83	60	6	0	------	⊤° p.
Mean	32	24.8	79.9	63.4	3	1.7	------	
Total	------	------	------	------	------	------	------	

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.9	19.6	98	49	0	0	------	☊² ≡ a.
2	------	20.1	93	60	0	1	------	☊ a.
3	------	------	------	------	------	------	------	
4	------	------	------	------	------	------	------	
5	------	------	------	------	------	------	------	
6	------	------	------	------	------	------	------	
7	------	------	------	------	------	------	------	
8	------	------	------	------	------	------	------	
9	33.1	23.9	86	49	2	1	------	
10	36	23.7	86	35	2	2	------	
11	38.3	21.7	80	34	0	2	------	
12	31.4	24.1	75	56	2	6	------	
13	------	------	89	------	2	------	------	
14	------	------	------	------	------	------	------	
15	33.3	------	------	59	------	4	------	
16	32.3	23.1	92	58	0	6	------	
17	33.6	22.9	90	57	2	3	------	
18	33.4	23.9	86	54	0	2	------	
19	31.5	22.6	92	66	0	5	------	
20	33.7	23.5	87	62	0	4	------	⊤ p.
21	33.2	23.7	86	58	0	3	------	
22	33.6	23.6	84	63	0	4	------	
23	34.2	24	86	61	0	3	------	
24	34.6	24.5	81	57	0	3	------	◯ a.
25	33.9	24.4	86	63	0	5	------	◯² p.
26	34.4	25.5	90	56	1	2	------	◯ p.
27	35.3	21.3	90	57	0	2	------	
28	34.2	25.5	80	53	0	1	------	
29	34.5	25.7	90	45	3	1	------	
30	34.8	24.1	85	55	0	1	------	
Mean	33.9	23.4	86.9	54.9	.6	2.8	------	
Total	------	------	------	------	------	------	(a)	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	26.4	19.5	87	89	10	10	------	● a. p° p.
2	29.4	21.7	86	73	4	4	------	
3	30.2	21.7	86	70	4	3	5.1	
4	29.1	22	80	81	2	9	2	● v d a.
5	29.4	22.4	84	76	4	5	25.6	⊤° d° a. ☊ p.
6	26.8	20.9	86	76	7	5	1.6	● d° a.
7	28.6	21.4	90	69	6	4	------	●° d° a.
8	28.7	22.3	83	69	3	4	------	
9	29.8	22.5	83	68	2	4	------	☊² p.
10	28.5	20.5	86	76	5	7	------	☊ v a.
11	25.4	21.4	91	84	8	9	19.8	d² ● a. d° ●° p.
12	23.9	19.5	84	78	9	10	.7	☇° ●° a. d° a. p.
13	28	19.8	88	83	8	8	------	d° a.
14	30.4	23.4	87	73	4	5	------	
15	30.4	23.8	83	70	6	4	------	
16	29	24.1	90	86	6	8	23.6	d° p.
17	30	22.4	88	74	8	5	------	● v a.
18	30.2	23.4	81	70	3	3	------	
19	30.9	23.9	83	71	6	5	------	
20	30.9	24.3	85	71	3	7	------	
21	30.4	24.2	85	76	5	4	.8	●° a.
22	31	24.4	88	74	3	3	------	
23	31.5	24.6	87	76	3	4	------	◯ p.
24	31.5	24.5	88	75	4	3	------	◯° ☋ p.
25	31.5	24.5	89	76	4	3	------	
26	31.5	23.9	89	72	7	4	1.3	☾° p.
27	31.3	23.3	83	67	5	3	------	●° d° v a.
28	30.7	24	87	68	2	3	------	v a.
29	31.7	24.5	87	74	3	4	------	
30	32.1	25.1	89	73	3	3	------	d° a. ☊ p.
Mean	29.6	22.8	86.1	74.6	4.9	5.1	------	
Total	------	------	------	------	------	------	80.5	

[a] 22 days of observation.

SEISMOLOGICAL BULLETIN FOR APRIL, 1912.

By Rev. MIGUEL SADERRA MASÓ, S. J.,

Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

3, $11^h\ 39^m\ 50^s$* [$3, 19^h\ 39^m\ 50^s$]. **Butuan** (N of Mindanao). Oscillatory earthquake. Direction E–W, intensity IV, duration 7 seconds. A repetition at $21^h\ 17^m\ 51^s$* [$4, 5^h\ 17^m\ 51^s$] was of the same direction and force. The epicenter of these shocks lay in the northern portion of the Agusan Valley.

4, $23^h\ 0^m$ [$5, 7^h\ 0^m$]. **Butuan** (N of Mindanao). Earthquake of intensity II–III.

5, $15^h\ 3^m$ [$5, 23^h\ 3^m$]. **Aparri** (NE of Luzon). Oscillatory earthquake. Direction E–W, intensity III, duration 5 seconds. It was repeated with the same intensity at $20^h\ 7^m$ [$6, 4^h\ 7^m$].

7, $7^h\ 10^m$ [$7, 15^h\ 10^m$]. **Butuan** (N of Mindanao). Oscillatory earthquake. Direction ENE–WSW, intensity III–IV, duration 6 seconds.

7, $21^h\ 11^m\ 48^s$* [$8, 5^h\ 11^m\ 48^s$]. **Aparri** (NE of Luzon). Oscillatory earthquake. Direction E–W, intensity III, duration 3 seconds.

8, $20^h\ 32^m$ [$9, 4^h\ 32^m$]. **Northeastern Mindanao.** Earthquake of force IV. The observations received from Butuan and Surigao seem to justify the conclusion that the epicenter was underneath the eastern part of Butuan Bay.

10, $3^h\ 2^m$ [$10, 11^h\ 2^m$]. **Butuan** (N of Mindanao). Oscillatory earthquake. Direction N–S, intensity II–III, duration 2 seconds.

14, $12^h\ 29^m\ 28^s$* [$14, 20^h\ 29^m\ 28^s$]. **Northeastern Mindanao.** Earthquake of force IV–V. If we are to judge from the reports of Butuan and Surigao, its epicenter must be sought in the southeastern part of Butuan Bay. At $21^h\ 8^m$ [$15, 5^h\ 8^m$] occurred a repetition which was, however, felt only at the stations situated within a distance of 40 kilometers from the origin.

14, $19^h\ 0^m$ [$15, 3^h\ 0^m$]. **Sarangani** (S of Mindanao). Earthquake of force II–III.

16, $2^h\ 8^m\ 7^s$* [$16, 10^h\ 8^m\ 7^s$]. **Romblon Island and northern Capiz.** Earthquake of intensity III, whose epicenter appears to have been near 12° lat. N, and 122.5° long. E. The shock was felt over an area measuring more than 150 kilometers in the direction north-south, and about the same in the east-west direction. Hence, the shaken area comprised the northern part of Panay, the islands Tablas, Romblon, and Sibuyan, together with the islets which dot this region of the inter-island sea. The duration and intensity of this seismic perturbation as registered at Manila, at a distance of some 320 kilometers, suggest that within the submarine epicentral region the phenomenon developed a much greater intensity than that assigned to it by the observers.

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in Greenwich mean time (Midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

16, 14h 10m [16, 22h 10m]. **Calbayog** (NW of Samar). Earthquake of force III.

18, 20h 10m [19, 4h 10m]. **Surigao** (NE of Mindanao). Oscillatory earthquake of intensity II–III.

20, 21h 16m [21, 5h 16m]. **Butuan** (N of Mindanao). Oscillatory earthquake. Direction ENE–WSW, intensity III, duration 4 seconds.

26, 6h 16m 22s* [26, 14h 16m 22s]. **Ilocos Sur.** Oscillatory earthquake of intensity III, which was felt throughout a great part of the province of Ilocos Sur, from north of Vigan as far as Candon. Its origin seems to have been within the seismic center which we located years ago underneath the sea, not far from the coast of Ilocos Sur, between 17 and 17.5 degrees latitude north.[1]

29, 7h 35m [29, 15h 35m]. **Butuan** (N of Mindanao). Oscillatory earthquake. Direction ENE–WSW, intensity III–IV, duration short. At 1h 40m [9h 40m] there had occurred a slight disturbance of intensity II.

30, 17h 20m [May 1, 1h 20m]. **Sarangani** (S of Mindanao). Earthquake of intensity III.

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Mean Greenwich. Midnight=0h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T_0=7, ϵ=3.6; A_E: T_0=7, ϵ=3. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
74	1	I_d	eP	16 45 06				
			iL	45 13				
			M_E	45 18	3		12	
			F	48				
75	3	I_v	e	11 39 50				Butuan (N of Mindanao).
			F	12 17				
76	3	I_v	e	21 17 51				Butuan (N of Mindanao).
			F	47				
77	4	I_d	eP	2 45 59				
			L	46 04				
			F	48				
78	4	I_r	e	10 40 00				
			F	11 11				
79	6	I_d	eP	5 58 02				
			i	58 15				
			L	58 24				
			F	6 02				
80	6	I_d	eP	14 28 20				
			eL	28 42				
			M_N	29 00	3	19		
			F	33				
81	7	I_r	eP	21 11 48				Aparri (NE of Luzon).
			L	12 43				
			M_E	13 16	3		23	
			F	19				
82	13	I_d	eP	7 38 03				
			iL	38 18				
			M_E	38 19	2–3		34	
			F	41				
83	14	I_v	eP	12 29 28				Surigao (NE of Mindanao).
			F	41				
84	14	I_r	e	22 40 23				
			F	23 07				
85	16	II_v	eP	2 08 07				Romblon Island and north of Capiz.
			L	08 34				
			M_E	08 37	4		256	
			M_N	08 46	4			
			F	30				
86	16	I_d	e	8 57 33				
			F	9 02				

[1] Bulletin for May, 1909.

Records of the microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. *m.* *s.*				
87	20	I_r	e	1 19 25				
			F	34				
88	20	I_r	e	1 38 33				
			M_N	48 07	12	4		
			F	2 43				
89	23	I_r	eP	21 49 48				
			eL	58 00				
			M_N	22 01 28	13-14	4		
			M_E	01 45	13-14		4	
			F	35				
90	24	I_d	eP	21 40 50				
			iL	41 10				
			M_N	41 12	2-3	20		
			F	44				
91	26	I_d	eP	4 13 38				
			eL	13 50				
			M_N	14 58	4	10		
			F	20				
92	26	I_r	eP	6 16 22				Ilocos Sur.
			iL	16 55				
			M_N	17 28	3-4	51		
			F	25				
93	27	I_r	eP	3 45 36				
			F	4 05				
94	28	I_d	eP	2 46 40				
			L	46 50				
			F	49				
95	29	I_r	e	9 35 ?				
			F	50				
96	30	I_d	e	0 17 00				
			F	20				
97	30	I_r	e	7 34 51				
			F	8 00				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

3, $11^h\ 39^m\ 50^s$* [3, $19^h\ 39^m\ 50^s$]. **Butuan** (N de Mindanao). Temblor oscilatorio. Dirección E–W, intensidad IV, duración 7 segundos. Repitió a $21^h\ 17^m\ 51^s$* [4, $5^h\ 17^m\ 51^s$] con los mismos caracteres de dirección e intensidad. El epicentro de estos temblores se hallaba en la parte N del valle del Agusan.

4, $23^h\ 0^m$ [5, $7^h\ 0^m$]. **Butuan** (N de Mindanao). Temblor de tierra de intensidad II–III.

5, $15^h\ 3^m$ [5, $23^h\ 3^m$]. **Aparri** (NE de Luzón). Temblor oscilatorio. Dirección E–W, intensidad III, duración 5 segundos. Repitió a $20^h\ 7^m$ [6, $4^h\ 7^m$] con la misma intensidad.

7, $7^h\ 10^m$ [7, $15^h\ 10^m$]. **Butuan** (N de Mindanao). Temblor oscilatorio. Dirección ENE–WSW, intensidad III–IV, duración 6 segundos.

7, $21^h\ 11^m\ 48^s$* [8, $5^h\ 11^m\ 48^s$]. **Aparri** (NE de Luzón). Temblor oscilatorio. Dirección E–W, intensidad III, duración 3 segundos.

8, $20^h\ 32^m$ [9, $4^h\ 32^m$]. **NE de Mindanao.** Temblor de tierra de intensidad IV. De las notas de Butuan y Surigao parece deducirse que su epicentro se hallaba en la parte E de la bahía de Butuan.

10, $3^h\ 2^m$ [10, $11^h\ 2^m$]. **Butuan** (N de Mindanao). Temblor oscilatorio. Dirección N–S, intensidad II–III, duración 2 segundos.

14, $12^h\ 29^m\ 28^s$* [14, $20^h\ 29^m\ 28^s$]. **NE de Mindanao.** Temblor de tierra de intensidad IV–V. Su epicentro, a juzgar por las notas de Butuan y Surigao, debe colocarse en la parte SE de la bahía de Butuan. Hubo una repetición de intensidad III, sentida solamente en las estaciones situadas dentro de un radio de 40 kilómetros del origen a $21^h\ 8^m$ [15, $5^h\ 8^m$].

14, $19^h\ 0^m$ [15, $3^h\ 0^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad II–III.

16, $2^h\ 8^m\ 7^s$* [16, $10^h\ 8^m\ 7^s$]. **Isla de Romblón y N de Capiz.** Temblor de tierra de intensidad III, cuyo epicentro parece se hallaba hacia los 12° N y 122.5° E. Fué perceptible en una extensión de más de 150 kilómetros en la dirección N–S y tal otro tanto en la E–W; comprendiendo así la región afectada toda la parte N de la Isla de Panay, la Isla de Tablas, las de Romblón y Sibuyan, y otras más pequeñas, existentes en esa parte de mar interinsular. La duración e intensidad de la perturbación seísmica registrada en Manila, distante unas 320 kilómetros, indican que en la región epicéntrica submarina tuvo este temblor mucha mayor intensidad que la indicada más arriba.

18, $20^h\ 10^m$ [16, $22^h\ 10^m$]. **Calbayog** (NW de Samar). Temblor de tierra de intensidad III.

18, $20^h\ 10^m$ [19, $4^h\ 10^m$]. **Surigao** (NE de Mindanao). Temblor oscilatorio de intensidad II–III.

20, $21^h\ 16^m$ [21, $5^h\ 16^m$]. **Butuan** (N de Mindanao). Temblor oscilatorio. Dirección ENE–WSW, intensidad III, duración 4 segundos.

26, $6^h\ 16^m\ 22^s$* [26, $14^h\ 16^m\ 22^s$]. **Ilocos Sur.** Temblor oscilatorio de intensidad III, sentido en gran parte de la Provincia de Ilocos Sur, desde el N de Vigan hasta Candon. Su origen parece se hallaba en el epicentro que hace años situamos en el mar, no lejos de las costas de Ilocos Sur, entre los grados 17 y 17.5 Lat. N.[2]

29, $7^h\ 35^m$ [29, $15^h\ 35^m$]. **Butuan** (N de Mindanao). Temblor oscilatorio. Dirección ENE–WSW, intensidad III–IV, duración corta. A $1^h\ 40^m$ [$9^h\ 40^m$] se había sentido una pequeña sacudida de intensidad II.

30, $17^h\ 20^m$ [Mayo 1, $1^h\ 20^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

[1] La intensidad de los terremotos se indica conforme a la conocida escala de De Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

[2] Bulletin for May, 1909.

BULLETIN FOR MAY, 1912.

METEOROLOGICAL BULLETIN FOR MAY, 1912.

By Rev. JOSÉ CORONAS, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—For May of this year the mean atmospheric pressure works out slightly higher than for the same month of the preceding year. At Manila, the excess over the normal for the month was 0.26 millimeter and over the mean for May, 1911, 0.28 millimeter. The highest pressures have been observed on May 3 and 4; the lowest on May 25 and 26.

The mean monthly temperature surpassed the same value for 1911 by one degree centigrade or more at all the Philippine stations. As regards Manila, it was 0.5° C above the normal for the month and 1.6° C above the mean for May of the preceding year. The extremes of temperature registered at Manila Observatory were 38.3° C on the 19th and 21.9° C on the 11th. A temperature as high as the absolute maximum for this month had not been observed in Manila since the year 1889.

In the BULLETIN for April we remarked that during the last eleven days of that month the daily maximum of temperature had never remained below 36° C. The same is true of the first five days of May. Thus resulted a long period of sixteen consecutive days characterized by such high maxima. A search among our records for the years 1880 to 1911, both included, revealed the fact that during this long interval of time the longest period of consecutive daily maxima of not less than 36° had been one of eleven days in May, 1889. Aside from the first five days of the month, there were in May eleven days more whose maximum temperatures exceeded 36° C.

As regards the secondary stations, we call attention to the absolute maxima of 40.5° C recorded at Tuguegarao and Echague on the 19th and 16th, respectively, and of 40.3° observed at San Isidro, Nueva Ecija, on the 18th.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS FOR MAY, 1912.

Station.	Pressure.						Temperature.					
	Mean.	Departure from May, 1911.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from May, 1911.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°C.	°C.	°C.		°C.	
Tagbilaran	758.67		759.97	4	757.35	25	27.5		35.2	17		
Cebu	58.58	+0.46	60.09	3	57.27	25	28.9	+1.4	34.8	27	23.5	10
Iloilo	58.51	+ .32	59.91	4	57.29	25	28.8	+1.6	35.9	18	22.2	6
Ormoc	58.87	+ .53	60.22	4	57.60	25	27.2	+1.4	34.6	3	19.3	12
Tacloban	58.98	+ .19	60.66	3	57.41	25	28.5	+1.1	35.8	27	22.6	5
Capiz	58.57	+ .28	60.27	4	57.10	25	28.7	+1.4	36.4	19,20	21.1	6
Calbayog	58.88	+ .42	60.53	3	57.29	25	27.5	+1	34.4	19	21.3	5
Legaspi	58.88	+ .46	60.79	3	57.31	26	29.2	+1.4	37.2	27	20.6	6
Atimonan	58.60	+ .13	60.66	3	57.05	26	28.6	+1.3	36.5	14	22.5	5
Paracale	58.89	+ .30	60.99	3	57.30	25	28.3	+ .8	35.3	27	22.1	5
Manila	58.63	+ .28	60.33	3	57.17	25	29	+1.6	38.3	19	21.9	11
San Isidro	58.73	+ .51	60.39	3	57.24	25	29.3	+1.7	40.3	18	22.5	11
Dagupan	58.09	+ .04	59.66	4	56.69	26	29.3	+1	37.8	3	23	9
Bolinao	58.27	+ .34	59.97	4	56.82	26	29.8	+1.6	36.1	11,12,25,28	23.2	18
Baguio[a]	636.89	+ .45	638.22	3	635.76	25	19.3	+ .8	27.2	3, 5, 18	15.4	8
Vigan	758.44	+ .46	760.12	3	757.02	25	29.4	+1.1	35.4	26	23.8	9, 23
Tuguegarao	58.47	+ .13	60.18	4	56.98	25	29.4	+1.6	40.5	19	22	30, 31
Aparri	58.41	+ .05	60.40	4	56.89	26	28	+1	36	29	22.5	10, 31

[a] The barometric readings of this station are not reduced to sea level.

Precipitation.—The drought mentioned in the preceding BULLETINS continued during May, as is evident from the subjoined table. Only three stations report a rainfall slightly in excess of that for May, 1911, but below the normal; while at three others the rainfall somewhat surpassed the normal, but remained short of the amount for May of the preceding year. At Manila the monthly total was only 20.9 millimeters, which is 89.8 millimeters below the normal and 111.1 millimeters less than the precipitation during May, 1911. Only five times since 1865 did Manila have less rain during May than the present year.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF MAY, 1912.

Station.	Total.	Departure from May, 1911.	Departure from normal.	Rainy days.	Departure from May, 1911.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from May, 1911.	Departure from normal.	Rainy days.	Departure from May, 1911.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*	*mm.*			*mm.*			*mm.*	*mm.*	*mm.*			*mm.*	
Isabela, Basilan	62.1	—162.7	.....	11	— 8	20.1	31	Sumay, Guam	16.6	— 54.7	.....	5	— 9	6.4	11
Zamboanga	60.5	— 10.5	— 7.3	3	— 6	53.1	20	Calapan	73.9	— 84.2	.....	5	— 9	59.7	9
Davao	156.9	— 95.4	— 84.9	9	— 3	50.8	23	Virac	16.6	—263.7	.....	8	—11	7.4	10
Cotabato	287	— 49.2	+ 67.9	20	— 3	77.5	13	Nueva Caceres	123.7	— 63.2	+ 26	8	— 6	40.9	24
Cagayan, Misamis	17.3	.....	.....	5	.....	12.4	31	Batangas	14.2	— 75.2	.....	5	— 3	10.4	7
Dapitan	27.4	—112.1	.....	2	—10	24.6	30	Atimonan	57.2	—132.4	—103.9	6	— 9	29.5	9
Butuan	20.5	—110.8	— 91.9	4	—14	17.5	2	Silang	103.6	—143	.....	8	— 8	54.6	9
Dumaguete	11.7	— 74.3	.....	0	— 9	11.7	31	Paracale	48	—213.9	.....	7	— 9	13.7	23
Yap, W. Carolines	229	— 13.1	.....	17	— 2	151.1	23	Sta. Cruz, Laguna	136.5	— 21.8	.....	9	— 4	54.4	27
Tagbilaran	1.5	—125	—113.5	1	—13	1.5	27	Manila	20.9	—111.1	— 89.8	5	— 3	12.2	28
Surigao	17.8	— 86.7	— 95.3	4	— 3	15.5	26	Antipolo	161.3	+ 32.1	.....	7	— 3	63.5	25
Maasin	0	— 93.6	— 83	0	— 6	0	0	Iba	69.8	—172.4	.....	7	— 2	24.7	2
Cebu	32.5	— 77.6	— 60	3	—16	29.2	27	San Isidro	141.5	— 98.2	— 58.2	13	— 2	44.5	27
Iloilo	12.2	— 94.4	—144	4	—13	8.1	21	Tarlac	114.3	+ 59.8	— 79.4	9	— 4	45.7	21
San Jose Buenavista	27.5	—170	.....	5	— 9	20.8	31	Baler	242.9	+110.5	.....	18	+ 5	43.9	21
Cuyo	106.5	— 93.6	.....	7	—11	39.1	17	Dagupan	199.5	— 49.6	— 79.9	10	— 3	71.1	9
Ormoc	4.9	— 85.5	— 66.7	4	— 7	2.8	31	Bolinao	18.6	—124	—152.8	7	— 8	6.4	28
Guiuan	16.7	.....	.....	8	.....	4.1	2	Baguio	233.4	—147	—222.1	19	— 3	48	5
Tacloban	17.1	— 91	.....	8	— 3	10.2	27	San Fernando, Union	2.1	— 62.6	—182.7	3	— 8	1	20
Capiz	34.6	—284.4	—153	3	—15	22.1	29	Echagüe	155.6	— 11.4	.....	13	— 1	42.4	21
Borongan	32.9	—196.1	—169.6	12	— 6	8.9	18	Candon	5.1	—144.1	.....	1	— 5	5.1	26
Calbayog	23.3	— 98.3	—139.3	7	—10	10.4	10	Vigan	.5	— 50.7	—116.3	1	— 5	.5	25
Masbate	1	— 65.9	.....	1	— 6	1	27	Tuguegarao	149.6	— 8	+ 30.5	10	— 4	61.2	31
Romblon	42.7	.....	.....	7	.....	20.1	31	Laoag	27.4	— 24.7	.....	2	— 4	26.4	10
Laoang	11.2	—154.7	.....	3	—16	8.1	30	Aparri	46.6	— 90.8	— 65.3	9	+ 3	19.3	30
Gubat	10.4	.....	.....	2	.....	6.6	10	Santo Domingo, Batanes	108.7	— 9.6	.....	10	— 5	52.4	31
Legaspi	32	— 84.5	— 84.2	6	— 6	22.6	27								

DEPRESSIONS AND TYPHOONS.

During the entire month the Observatory had only once occasion to announce a distant depression and even this one was of exceedingly small importance and, it would seem, very short-lived. On the weather map for 6 a. m. of May 17 it could be clearly made out, lying to the southeast of the Loochoos Islands; but on those for the 18th there was no longer any trace of it.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes en Filipinas es ligeramente mayor que la de Mayo del año pasado. La de Manila se diferencia de la normal de este mes en +0.26 mm. y de la media de Mayo, 1911, en +0.28 mm. Las mayores presiones del mes se observaron el 3 y el 4; y las menores el 25 y 26.

La temperatura media mensual es mayor que la del año anterior en 1 °C, o más, en todas las estaciones de Filipinas. La de Manila difiere de la normal en +0.5 °C y de la de Mayo, 1911, en +1.6 °C. Los valores extremos registrados en el Observatorio fueron 38.3 °C y 21.9 °C correspondientes respectivamente a los días 19 y 11. Una temperatura tan alta como 38.3 °C no se había observado en Manila desde 1889.

Dijimos en el Boletín de Abril que durante los últimos 11 días de dicho mes ninguna de las temperaturas máximas diarias fué menor de 36 °C. Lo mismo sucedió en los 5 primeros días de Mayo, resultando así un largo período de 16 días consecutivos de temperaturas máximas tan elevadas. Examinando nuestras estadísticas desde el año 1880 hasta 1911 ambos inclusive hallamos que el período más largo de temperaturas máximas diarias no menores de 36 °C había sido de 11 días solamente, en Mayo de 1889. Además de los 5 primeros días del mes tuvimos en Mayo de este año 11 días más con temperaturas máximas mayores de 36 °C.

Por lo que toca a otras estaciones de Filipinas llamamos la atención sobre las máximas absolutas 40.5 °C observada en Tuguegarao y Echague los días 19 y 16 respectivamente, y 40.3 °C observada en San Isidro, Nueva Écija, el día 18.

Precipitación acuosa.—Ha continuado este mes la sequía de que hemos hablado en los anteriores, según salta a la vista en la tabla de lluvia que acompaña el texto inglés. No hay más que tres estaciones que nos den un total de lluvia algo mayor que el del año pasado, y solo tres estaciones también aparecen con una cantidad de lluvia algo superior a la normal de Mayo. La lluvia caída en Manila no ha pasado de 20.9 mm., cantidad inferior a la normal en 89.8 mm. y a la lluvia de Mayo, 1911, en 111.1 mm. Solo cinco veces desde 1865 ha habido en el mes de Mayo menor cantidad de lluvia que este año.

DEPRESIONES Y TIFONES.

El Observatorio anunció una sola depresión lejana en todo el mes, y aún ésta fué de muy poca importancia y al parecer de poca duración. En el mapa del tiempo de 6 a. m. del 17 se la pudo situar claramente hacia el SE de las islas Liukiu: pero en los mapas del tiempo del 18 no se notaba ya rastro alguno de ella.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[a]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure (mean).	Air temperature.[b]			Underground temperature.						Relative humidity (mean).	Vapor pressure (mean).	Evaporation.[b]	
		Mean.	Maximum.	Minimum.	0.25 meter.		0.50 meter.		1.50 meters.	2.50 meters.			Free exposure (total).	Shelter (total).
					8 a. m.	2 p. m.	8 a. m.	2 p. m.	8 a. m.	8 a. m.				
	mm.	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	*Per ct.*	*mm.*	*mm.*	*mm.*
1	757.72	30.7	37.2	26.1	32.3	36	32.3	32.9	29.1	28.4	55.6	17.9	9.9	7.4
2	58.59	30.5	37.2	25.5	32.9	36	32.6	33.2	29.2	28.5	54.5	17.2	10.4	8.2
3	60.33	29.3	37.2	22.7	32.3	35.7	32.4	33.1	29.2	28.4	57.1	16.7	10	7.5
4	60.18	29.2	36.4	23.6	33	35.8	32.8	33.4	29.3	28.6	64.7	19.3	7.8	5.7
5	59.10	30.3	37	25.1	33.3	37	33	33.8	29.3	28.7	61.6	19.1	9	6.8
6	58.55	29.2	34.4	26.5	33.2	36.1	33.2	33.8	29.5	28.6	72.2	21.7	5.7	4.1
7	58.71	29.2	35.1	24.5	33	36.4	33.2	33.9	29.6	28.7	70.3	21	7.3	5.2
8	59.19	27.7	33.1	25.4	32.8	34.1	33.2	33.5	29.6	28.7	75.7	20.8	4.1	3.2
9	58.50	28.3	36.2	23.9	32.1	35.5	32.9	33.6	29.9	28.8	70.9	20	6.2	4.7
10	59.67	29	36.3	23.6	32.7	36	33	33.6	30	28.8	60.7	17.5	8.6	6.9
11	59.94	28.3	36.8	21.9	32.4	34.9	33.2	33.5	30	28.8	62.2	17.3	7.3	5.6
12	58.95	29.3	36.2	23.2	31.7	35.9	33	33.4	30.3	29	66	19.6	9.3	6.7
13	58.47	29.4	35	25.4	33.1	36.5	33.1	33.8	30.1	29	70.8	21.3	7	5.5
14	58.59	29.3	35.3	25.4	33.5	36.8	33.5	34	30.2	28.9	70.8	21.2	6.5	4.8
15	58.79	28.8	35	23.9	33	36	33.4	34.4	30.2	29	68.8	20.1	6.8	4.9
16	58.47	28.8	35.2	23.7	33	36.7	33.5	34.1	30.2	29	73.3	21.4	5.9	4.8
17	58.48	28.5	35.1	23	33.1	36.6	33.7	34.2	30.2	29.1	71.5	20.4	6.8	4.9
18	58.90	29.2	36.7	23.6	31.7	35.1	33.1	33.6	30.4	29.1	66.4	19.8	6.8	5
19	58.46	30.1	38.3	24.2	31.9	35.6	32.8	33.6	30.5	29	59.5	18.1	9.9	7.3
20	57.73	29.6	37.3	24.1	32.1	36	33	33.8	30.4	29.2	62.2	18.9	7.4	5.6
21	58.53	28.6	35.1	24.1	33.2	35.6	33.4	33.8	30.7	29.2	73.1	21	4.3	3.9
22	58.60	28.6	36.3	23.6	32	35.3	33.1	33.4	30.6	29.3	71.8	20.6	6.8	4.6
23	58.58	28.2	35.4	24.9	32.3	35	33	33.4	30.8	29.3	74.6	21	4.7	3.4
24	57.96	28.6	35.6	24.5	32	35.3	32.7	33.2	30.9	29.5	73.4	21.2	5.6	4.1
25	57.17	28.5	35.7	24.3	31.6	33.9	32.5	32.9	30.8	29.3	72.9	20.8	4.3	3.5
26	57.32	28.7	35.4	23.9	30.9	34	32	32.6	30.8	29.3	74.4	21.4	6.4	4.3
27	57.64	29	35.6	25	31.8	34.5	32.3	32.7	30.8	29.4	75	22.1	5.3	3.7
28	58.52	28.2	36.7	23.6	31.4	34.5	32.1	32.8	30.9	29.4	75.8	21	4.5	3.5
29	58.99	28.2	36.6	24.1	31	33.7	32	32.4	30.8	29.5	75	21.2	4.7	3.6
30	58.44	29.7	36.1	24.5	31	34	32	32.5	30.8	29.5	74.4	22.8	5.9	4.7
31	58.52	29	35	25.5	31.7	34.8	32.1	32.8	30.7	29.4	72.4	21.4	5.8	4.5
Mean	758.63	29	36	24.3	32.3	35.5	32.8	33.4	30.2	29	68.6	20.1	6.8	5.1
Total													211	158.6
Departure from normal	+0.26	+0.5	+2.5	+0.4							—7.4	—1.6		

Date.	Wind.				Clouds.				Sunshine.		Rain, 24 hours beginning midnight.	Miscellaneous.
	Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Amount (mean).	Prevailing form and its direction. Upper.		Lower.				
		Km.	*Km.*		*0–10.*				*h.*	*m.*	*mm.*	
1	SE quad.	240	17.5	SE	3.1	Ci.-S.	NW	Cu.	ENE	10	00	
2	SE quad.	289.5	30	SE	4.1	A.-Cu.	ENE	Cu.	NE	9	55	
3	SE	268.5	26	WNW	1.2	Ci.		Cu.	E	11	20	
4	SW quad.	216	16.5	W	2.4	Ci.		Cu.	NE	10	45	
5	S quad.	241.5	18.5	SW	3.7	A.-Cu.	E	Cu.		9	10	
6	SW quad.	320.5	29	SW by W	4.6	A.-Cu.	W	Cu.-N., Cu.		8	20	
7	W quad.	245.5	25	WSW	2.3	A.-Cu.		Cu.		10	30	
8	W quad.	124	18	SW	8.2	Ci.-S.	W	Cu.-N.	SW	2	30	0.1
9	ESE	165	21	ESE	5.8	Ci.		Cu.-N.	E	7	50	
10	ESE	220	19	ESE	4.7	Ci.		Cu.	E	8	40	
11	E quad.	177.5	17.5	W by N	5.4	Ci.		Cu.-N.	E	7	00	
12	SW quad.	187.5	19	SW by W	2.8	A.-Cu.		Cu.		10	40	
13	SW quad.	276	24	WSW	3.6	A.-Cu.		Cu.-N.		9	40	
14	SW quad.	203.5	21	WSW	2.4	Ci.		Cu.		10	10	
15	SW quad.	203	25	WSW	6.4	Ci.-S.	SE	Cu.		7	00	
16	SW quad.	238.5	30	SW by W	5.6	Ci.-S.	E	Cu.		9	45	
17	SW quad.	190	21	SW	3	Ci.	E	Cu.		10	00	
18	W quad.	165.5	19	WNW	2.7	Ci.		Cu.		6	45	
19	SE quad.	160.5	15	W by S, SE	2.2	Ci.		Cu.		10	30	
20	Variable	174	22	NW by W	6.4	A.-Cu.	ESE	Cu.	E	6	30	
21	Variable	167	18	N by W	7.8	Ci.-S.	NW	Cu.-N.	E	3	30	3.2
22	W quad.	230.5	23	SW by W	7.4	Ci.-S.	S	Cu.	E	8	35	2.1
23	NE quad.	163	14.5	WSW	6.9	Ci.-S.		Cu.	ESE	5	45	
24	Variable	169	18.5	W by N	7.2	Ci.		Cu.-N.	E	6	15	
25	SW quad.	240.5	18.5	W	5.7	Ci.		Cu.		6	25	3.3
26	SW quad.	224.5	25	SW	4.4	Ci.-S.		Cu.		9	40	
27	SW quad.	232.5	28	WSW	5.5	Ci.		Cu.		6	15	
28	NE quad.	176	21	NE	7.8	Ci.		Cu.-N.	SE	5	35	12.2
29	NE quad.	148.5	17	SW by S	5.5	Ci.-S.		Cu.		7	25	
30	W quad.	168	17	W	4.3	Ci.		Cu.		8	00	
31	W quad.	219	17.5	WSW	4.6	Ci.-S.		Cu.		8	00	
Mean		207.9	21		4.8					8	09	
Total										252	25	20.9
Departure from normal		—18.0			—0.9					+19	18	—89.8

[a] All the mean values given in this table are deduced from hourly observations.
[b] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[a]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 26.2 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.87	26.7	32.7	------	85.8	NNE, SSE	0.7	2.7	Ci.	Cu. NE, E	-------	⌒° ⊽² p.
2	58.45	27.7	33.7	------	83.2	Variable	.5	5	Ci.-S.	Cu. E quad.	-------	
3	59.92	28.3	33.7	------	78	Variable	.8	5.3	Ci.-S.	Cu. SE, E	-------	
4	59.97	26.4	33.4	------	84.2	S	1	2.2	Ci.-S., Ci.	Cu.	-------	
5	59.44	26.2	32.9	------	86.2	S	1.2	2.3	Ci.	Cu.	-------	
6	58.83	26.5	32.7	------	86	S	.8	3.3	Ci.-S.	Cu. E	-------	
7	59.04	27	32.7	------	82.3	SE quad.	1.5	2.5	Ci.	Cu. SE, E	-------	
8	59.10	26.6	31.9	------	80.3	SE	1	1.8	Ci.	Cu., Fr.-Cu. ENE	-------	
9	58.78	26.3	31.8	------	79.3	S	1.5	5.2	Ci.-S.	Cu. E, SE	-------	
10	59.43	26.6	33.9	------	73.7	SE	1.2	1.8	Ci.	Cu. E	-------	
11	59.60	27.3	34.1	------	76.7	E	.7	1	Ci.	Cu. E, NE	-------	
12	59.18	27.1	33.7	------	75.5	Variable	1	1.3	Ci.	Cu.	-------	◟° p.
13	58.45	27.6	32.9	------	75.8	SE	1.2	1.5	Ci.	Cu. E	-------	
14	58.68	28.2	34.3	------	77.3	S	1.2	1.8	Ci., Ci.-S.	Cu. SE	-------	
15	58.81	28.1	34	------	75	Variable	1	1.8	Ci.	Cu., Fr.-Cu. NE	-------	◟° p.
16	58.62	28.2	33.3	------	77.8	SE quad.	1.2	2	Ci.	Cu.	-------	
17	58.58	27.9	35.2	------	78.7	SE quad.	1.3	3.7	Variable	Cu. E	-------	◟° p.
18	58.65	28.5	34.3	------	76	E, S	.5	4	Ci. NE	Cu. E	-------	
19	58.23	27.8	34.8	------	78.5	SE quad.	1.3	2.8	Ci. NE	Cu., Fr.-Cu. SE	-------	
20	57.58	27.9	34.1	------	75.2	NE, SE	.7	2.5	Ci.	Cu.	-------	
21	58.47	27.8	33.5	------	73.5	NE, S	.8	4.7	Ci.-S., Ci.	Cu.	-------	
22	58.43	27.6	33.3	------	78	E quad.	1.3	2.5	Ci.	Cu. E quad.	-------	⊤° p.
23	58.52	27.7	34.3	------	80.8	SE quad.	1.7	5.3	Ci.-S.	Cu. E	-------	
24	58.21	27.2	32.8	------	80.2	SE	1.5	6	A.-Cu. NE	Cu. E	-------	⊤² p.
25	57.35	27.5	32.7	------	79.7	SSE	1.2	5.3	Ci.-S.	Cu. SE, NE	-------	◟° p.
26	57.72	27.8	34.4	------	78.7	Variable	1.2	3	Ci.	Cu. NE	-------	◟° p.
27	58.06	27.5	33.6	------	82.8	S	.3	7.2	Variable	Cu. SE	1.5	● ° a. ⌐◹° p.
28	58.56	28.2	33.7	------	77.8	SE, ESE	.7	5.7	Ci.-S.	Cu. E, NE	-------	
29	58.88	28.6	33.7	------	77	SE quad.	1.3	5.7	Ci.-S., Ci.	Cu. E	-------	
30	58.74	28.6	33.2	------	78	S quad.	1.7	5.2	Ci.	Cu. SE	-------	◯² ⌐◹² ◟² p.
31	58.71	27.6	33.8	------	77.5	SE	.7	4	Ci. NE	Cu. ENE	-------	⊤° a. ◟° p.
Mean	758.67	27.5	33.5	------	79	----------	1.1	3.5	----------	----------	-------	
Total	-------	------	------	------	------	----------	-------	-------	----------	----------	1.5	

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.78	28.2	32.2	24	68.5	NE quad.	0.8	3.5	Ci.	Cu. E	-------	∞ p,
2	58.45	28.8	32	25.2	73.8	E	1	3.8	Ci., Ci.-S.	Cu. E	-------	⌐◹ p.
3	60.09	28.8	31.6	25.9	70.8	NE	1.2	3	Ci.	Cu. E	-------	
4	59.95	28.3	32.2	25.1	69.3	Variable	.5	3.5	Ci., Ci.-S.	Cu. E	-------	♌° a.
5	59.26	27.9	32.6	24.4	72.5	SE, E	.5	2.8	Ci.	Cu. E	-------	∞ p.
6	58.62	28.1	32.8	24.5	71.8	E quad.	.5	3.5	Ci.	Cu. E	-------	♌ ● ° a. ∞ p.
7	58.96	27.9	32.6	24.5	75.7	E, ESE	.3	3.7	Ci.	Cu. E	-------	
8	58.98	27.2	31.5	24.3	79.5	S	.2	4.2	Ci.	Cu. E	1	♌° a. ⌐◹ ● ° ◟° p.
9	58.47	28.1	32.6	24.1	73.8	S, E	.3	3	Ci.	Cu. E	-------	
10	59.43	28	32.5	23.5	69.5	E	.5	2.7	Ci.	Cu. E	-------	
11	59.52	29.1	33.1	25.5	68.2	E	.5	2.7	Ci.	Cu. E	-------	♌° a. ∞ p.
12	58.98	28.6	32.5	24.1	69.3	ENE, E	.3	2	Ci.	Cu.	-------	♌° a.
13	58.39	29.1	33.3	25.3	70.8	E	.5	2.8	Ci.	Cu. E	-------	♌° a. ⌐◹ p.
14	58.66	29.3	33.5	25.7	70.5	E	.3	2.8	Ci.	Cu. E	-------	∞ ⌐◹ p.
15	58.82	29.4	33.2	25.9	68.3	E	.3	2.7	Ci.	Cu. E	-------	
16	58.52	29.5	34	26.5	69	S	.5	3.3	Ci.	Cu. E	-------	∞ p.
17	58.59	29.2	33	26	73.3	Variable	.5	3.3	Ci.	Cu. E	-------	♌° a. ⌐◹ p.
18	58.66	29.8	33.5	26.4	69.7	E quad.	.5	3.2	Ci.	Cu. E	-------	∞ ⌐◹ p.
19	58.20	29.6	33.2	26.4	66.7	E	.8	2.8	Ci.	Cu. E	-------	
20	57.48	29.5	32.9	26	65	E	.5	2.7	Ci.	Cu. E	-------	∞ p.
21	58.63	29.4	33.2	25.5	62.3	E	.3	4.7	Ci.-S.	Cu. E	-------	∞ ⌐◹° ∪ p.
22	58.45	28.9	33.9	25.7	69.2	S, E	.3	3	Ci.	Cu. E	-------	⌐◹ p.
23	58.37	29.4	34.2	25.5	65.7	E quad.	.5	4	Ci., Ci.-S.	Cu. E	-------	⌐◹° p.
24	58.01	29.2	33.8	25.5	68.7	S	.5	3.5	Ci.	Cu. E	-------	●° ⌐◹ ⊽ p.
25	57.27	29.1	33.5	25	72	S	.3	6.2	Ci.-S.	Cu. E, NNE	1	♌ a. ◟° ∞ ∪ p.
26	57.40	29.7	33.8	25.8	71.3	S quad.	.5	5.2	Ci., Ci.-S.	Cu. S	-------	●° a. ◟ ∪ p.
27	57.82	29.5	34.8	25.6	71.8	S	.5	5.5	Ci.-S.	Cu. E	29.2	◟ ⌐◹ p.
28	58.44	29.2	34.6	24.5	74.2	E	.3	5.5	Ci.-S.	Cu. E	-------	● a. ⌐◹ a. p.
29	58.68	29.9	33.9	26.1	69.2	SE, E	.3	2.8	Ci.	Cu. ESE, E	-------	♌² a. ◟ p.
30	58.62	29.2	33	26.7	71	S, E	.3	4	Ci.	Cu. E	-------	♌ a. ◟ ∪ p.
31	58.46	29.1	33.5	25.6	71.7	S, E	.3	4	Ci.	Cu. E	1.3	◟ a. p. ⊽ p.
Mean	758.58	28.9	33.1	25.3	70.4	----------	.5	3.6	----------	----------	-------	
Total	-------	------	------	------	------	----------	-------	-------	----------	----------	32.5	

[a] All the mean values given in these tables are deduced from six daily observations.

Meteorological data for first and second class stations—Continued.

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.64	28.8	35	24.5	56.7	E quad.	1.5	2.2	Ci.	Cu.	-------	
2	58.22	29	33.9	24.4	61.2	NE quad.	1.7	3.5	Ci.	Cu.	-------	
3	59.85	29.4	34	26.7	65.8	NE	2	4.5	Ci.	Cu. NE	-------	
4	59.91	28.7	34.2	25.1	63	NE	1.7	1.7	Ci.	Cu.	-------	
5	59.24	28.5	34.9	22.9	63.2	Variable	1.2	2	Ci.	Cu.	-------	
6	58.75	27.4	32.4	22.2	70.8	SW	1	2.8	Ci. E	Cu.	-------	○ a.
7	58.85	28.4	35	23	64.7	SW	1	3.3	Ci. E	Cu.	-------	∞ p.
8	59.01	28	31.6	23.9	69.5	SW	1.2	1.8	Ci.	Cu.	-------	↘ p.
9	58.33	28.6	35.6	23.9	69.7	E, SW	.8	2	Ci.	Cu.	-------	
10	59.18	29.3	34.5	24.9	60.2	NE	1.5	2.3	Ci.	Cu.	-------	
11	59.29	29.7	34.7	26.3	60.7	NE	2	3	Ci.	Cu.	-------	
12	58.79	29.5	35.7	26.1	66.3	NE quad.	1.2	2.5	Ci.	Cu.	-------	
13	58.38	29.1	34.3	24.6	63.3	Variable	1	2.3	Ci.	Cu.	-------	
14	58.61	28.7	33	25.5	69.5	SW	1.3	2.7	Ci.	Cu.	-------	┼° ⌐◪ p.
15	58.75	29.1	33.7	25	72	SW	.8	3.3	Ci.	Cu.	-------	┼° ↘° p.
16	58.46	29.2	33.2	26.1	69.8	SW	1	4.5	Ci.	Cu.	-------	↘ p.
17	58.47	28.3	34.4	24.9	73.8	Variable	.7	4.3	Ci.	Cu.	2.5	┼ d ● ⌐◪ ↘ p.
18	58.53	29	35.9	24.4	71.8	NNE, SW	1	5	Ci.	Cu.	-------	┼ p.
19	57.91	30.4	35.6	26.9	62.3	NE, N	1.8	1.7	Ci.	Cu.	-------	↘° a.
20	57.32	30.2	35.8	26.4	62.7	NE	1.3	2.8	Ci.	Cu.	-------	┼ ↘ p.
21	58.31	27.9	33.5	24.3	73.7	Variable	1	4.3	Ci.	Cu.	8.1	↘ a. p. ┼ ⌐◪ ● p.
22	58.56	27.8	33.5	23.9	74.5	SW, NW	.3	5.7	Ci.	Cu.	-------	⌐◪ ↘ p.
23	58.52	28.4	34	24.7	74.5	Variable	.7	6.3	Ci.	Cu.-N. W, NE	-------	↘ a. ┼ p.
24	57.91	29.2	35.6	25.7	67.2	E	.7	5.3	Ci.	Cu. N	-------	┼ ↘ p.
25	57.29	28.2	32.6	25.1	77.5	SW	.8	8.7	Ci.	Cu.-N. ENE	.3	↘ a. p. ●° ⌐◪ p.
26	57.54	28.3	32	24.7	78.8	SW	1.5	6.7	Ci.	Cu.	-------	↘ a. p. ┼ p.
27	57.86	28.6	33.6	25.3	77.8	SW	1.2	6	Ci.-S.	Cu.	1.3	☊° a. ⌐◪ d. ↘ p.
28	58.63	28.4	31.2	25.6	75.2	SW	.7	7.5	Ci.-S.	Cu.	-------	↘ p.
29	58.62	29.5	35.8	25.5	71.8	SW	1	4.8	Ci.	Cu.	-------	↘ ⌐◪ p.
30	58.54	28.8	31.9	26.5	76.7	SW	1.5	8.5	Ci.	Cu.	-------	┼ ∞ < ⌐◪ p.
31	58.54	27.5	31.9	25.2	81	SW	.7	8	Ci.	Cu.	-------	d ┼ a.
Mean	758.51	28.8	34	25	69.2	-------	1.2	4.2	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	12.2	

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.11	27.4	32	20.7	69.8	NE, SW	0.8	2.3	Ci.	Cu. E	-------	
2	58.76	27.5	34.3	21.4	71	NE quad.	.7	5	Ci.	Cu. E	-------	
3	60.14	29.2	34.6	23.5	59.5	NE quad.	.7	2.7	Ci.	Cu. NNW	-------	☋° p.
4	60.22	26.1	31.6	20.2	76	Variable	.8	5.2	Ci. SSE	Cu.	-------	
5	59.48	26.4	31.5	20.5	75.8	Variable	.7	4.2	Ci. S	Cu.	-------	
6	59.06	26	31.2	20.2	75	SE quad.	.5	4.7	Ci.-S. SEbyS	Cu.	-------	
7	59.21	26.5	30.9	20.9	77	Variable	.5	5	Ci.-S.	Cu.-N. N	-------	
8	59.28	26.1	31	21	77.2	SE quad.	.8	2.5	Ci., Ci.-S.	Cu. N	-------	
9	58.87	26.6	32	21	73.7	NE	.8	2.3	Variable	Cu. NNE, NE	-------	
10	59.94	26	30.2	20	73	NE	.7	4.5	A.-Cu. E	Cu.-N. E	0.3	p° p.
11	59.72	27.6	33.1	21.8	67.3	NE, SSE	1.5	2	A.-Cu.	Cu. E	-------	
12	59.30	26.3	31.6	19.3	75	N, S	1.2	1	Ci.	Cu.	-------	↘ p.
13	58.75	26.9	32	20.5	74.7	S	.8	1.3	Ci.	Cu.	-------	
14	58.99	27.2	31.5	20.9	72.2	NE, S	.7	1.3	Ci., A.-Cu.	Cu.	-------	
15	59.03	27.9	32.2	22	72.5	SE quad.	.8	2.5	Ci.	Cu.	-------	
16	58.78	27.2	32.8	21.6	76.3	Variable	.8	2.5	Ci.	Cu.	-------	↘ p.
17	58.87	26.2	32.1	21.8	82.2	N quad.	.5	4	Variable	Cu.	.8	┼ p. ↘ p.
18	58.97	27.3	32.2	22.2	79.7	NE quad.	.8	4.8	A.-Cu. E	Cu. E	-------	↘ p.
19	58.44	29.2	33	24.3	65.2	NE	.8	3.2	Ci.	Cu. E	-------	☋ p.
20	57.78	28.2	33	21.9	70	NE quad.	1	2.5	Ci.	Cu.	-------	
21	58.68	27.2	31.4	22.4	75.3	S	.5	5.3	Ci.	Cu.	-------	☋ p.
22	58.83	27.6	32.1	22.5	74	S	1	3.8	A.-Cu., Ci.	Cu.	-------	┼° ↘ p.
23	58.64	27.4	32.6	21.9	73.2	Variable	1	5.3	Ci.-S.	Cu. N	-------	
24	58.26	27.9	32	23.5	78.7	S quad.	1	5.2	Ci.	Cu. N	-------	┼ ↘ p.
25	57.60	26.6	31.3	23.1	82	NW, S	.7	6.8	Ci.-S.	Cu.-N. SE	-------	┼ ↘ p.
26	57.71	27.2	31.8	22.5	80	SE quad.	.8	3	A.-Cu.	Cu.	-------	┼ ↘ p.
27	58.17	27.2	31.7	24.2	82.5	Variable	.5	8.8	Ci.-S. ESE	Cu.-N.	1	○ a. ⌐◪ p ↘ p.
28	58.86	27.8	32.4	23.6	81.5	Variable	.7	7.3	A.-Cu. NE	Cu.-N.	-------	☰° ○² a. ↘ p.
29	59.05	27.9	32.7	22.5	76.5	NE, S	.7	1.5	Ci.	Cu. E	-------	↘ p.
30	58.78	27.7	32.1	22.4	77.5	Variable	.8	3.3	Ci.-S.	Cu.-N. E	-------	┼ p.
31	58.83	26.1	32.4	22.4	83	N	.5	3.8	Ci.-S.	Cu.-N. E	2.8	⌐◪ d ↘ p.
Mean	758.87	27.2	32.1	21.8	75.1	-------	.8	3.8	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	4.9	

Meteorological data for first and second class stations—Continued.

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 3.4 meters; gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.38	27.8	32.0	23	79.2	SE quad.	1.3	3.3	Ci.	Cu. E, ENE	-------	☋² ☊² a.
2	59.25	27.9	32.5	23.6	79.8	E	.8	6.2	Ci.-S. WSW	Cu. E	1.3	☋² ☊² a. ● d p.
3	60.66	28	32.4	23.9	78.3	S	.8	5	Ci.-Cu. S	Cu. NE	-------	☋² p.
4	60.52	27.6	32.9	23.6	78	SE quad.	.7	6.2	Ci.-S. SW	Cu. E	-------	☾² ☊² a.
5	59.62	27.8	33.1	22.6	80	SSE	.7	6.5	Ci. SSW	Cu. E	-------	○° a. p.
6	59.05	28.2	33	24.8	79.5	SE quad.	1	6.3	Ci. SW	Cu. ENE	-------	☾² a. ☾² p.
7	59.31	28.3	32	24.8	78.3	SE	1	6.7	Ci.	Cu. ENE	-------	☋² ☾² a.
8	59.30	28.1	33.1	25	76.7	SE	1.2	5	Ci.-S.	Cu. NE	-------	
9	59.05	27.8	32	24.3	74.7	SE	.7	3.8	Ci.	Cu. N	-------	☊² p.
10	59.99	27.1	32	24.3	79.8	NE	.7	5.8	----------	Cu. NE	.8	●° a.
11	59.94	28.1	32.4	24.2	78.2	S quad.	.7	5	----------	Cu. ENE	-------	☊² a.
12	59.54	28.2	31.9	24.4	76.5	SE	.8	3.7	Ci.	Cu. ESE	-------	☋² ☊² a.
13	58.86	28.5	33	25	78	SE quad.	.7	2.8	Ci.	Cu. E	-------	☊² a.
14	58.98	29	33.4	25.7	74.5	SSE	1	3.8	Ci.-S.	Cu.	-------	☊² a.
15	59.22	29.2	32.8	26.4	75.7	SE quad.	1.3	3.7	Ci.	Cu. ESE	-------	
16	58.97	29	33.3	26.2	75.8	SSE	.7	4.5	Ci. SW	Cu. E	-------	
17	58.92	29	33.9	25.7	78.5	SE	1.3	5.3	Ci.	Cu. SE	2.5	● p.
18	59.16	28.7	32.6	25.4	81.3	SE quad.	1.2	6.5	Ci.-S. SW	Cu. E	-------	
19	58.67	28.7	33.6	25.2	78.2	S quad.	.8	2.5	Ci.	Cu. ENE	-------	☊° a.
20	58.15	28.4	33.4	25	80.3	Variable	1	4.5	Ci.	Cu.-N. E, ENE	.3	☊² a. ●° p.
21	58.74	28.6	32.5	26	79.8	SSE	.7	6.7	Ci.-S. SW	Cu. E	-------	┼ p.
22	58.90	28.4	33	24.3	79	SE quad.	.8	5.2	Ci.	Cu. ESE	.5	┼ ●° p.
23	58.73	29	34.4	25.4	77.8	SSE, SE	.5	7.2	Ci. W	Cu. E	-------	○² a. p. ☾² ☋² p.
24	58.23	28.9	33.3	25	78.7	SE	1.3	6.2	Ci. W	Cu. ENE	-------	☾² ┼ ☇² p.
25	57.41	28.8	33.2	25.5	77.7	SSE	.7	6.7	Ci. SW	Cu. ENE, NE	-------	☾² a. ┼ p.
26	57.62	28.9	33.8	25.2	74.8	SE	.5	4.7	Ci.-Cu. SW	Cu.	-------	┼ ☋² p.
27	57.96	29.1	35.8	25.1	77.8	SE quad.	.5	7.3	Ci.-S. SSW	Cu.-N. ENE	10.2	┼ ● ⌐☇ p.
28	58.71	28.9	33	25	80.2	WNW, SSE	1	7	Ci. NW	Cu. SE	-------	● ⌐☇ a. ┼ p.
29	59.17	29.4	33.5	26	78.5	SSE	1.2	3.2	----------	Cu. ESE	-------	┼ p.
30	58.84	29.4	33.4	26.5	80	SSE	1.3	5	----------	Cu. ESE	1.5	┼ p.
31	58.54	29.6	34.6	26	78.7	SSE	1	6	Ci.-S. NW	Cu. ESE	-------	● a. ┼ ◠² p.
Mean	758.98	28.5	33.1	24.9	78.2	----------	.9	5.2	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	17.1	

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.86	27.9	34.8	23.7	77.2	NE	0.3	1.7	Ci.	Cu.	-------	
2	58.52	28	35.3	23.2	77	NE	.7	3.8	Ci.	Cu.-N., Fr.-Cu. NE	-------	☋° p.
3	60.09	29	34.4	25.4	77.7	ENE	.8	6	Ci.-S.	Cu. NE, ENE	-------	
4	60.27	28.3	35	24.2	74	NE	.3	4.8	Ci.	Fr.-N. NE	-------	
5	59.44	27.4	33.9	23.3	77.8	NE	.3	5.3	Ci.	Cu. NE	-------	
6	58.73	27	34.8	21.1	77.5	NE	.3	3.5	Ci.	Cu. NE	-------	
7	58.92	27.4	35.5	21.7	75.8	NNE, NE	.3	4.5	Ci.	Cu. NE	-------	
8	59.10	28.2	35.2	23.1	78	NE	.3	2.5	Ci.	Cu.-N. NE	-------	☇ p.
9	58.42	28.6	35.4	24	76.2	NE, E	.5	3	Ci.	Cu.-N. NE	-------	◠° a.
10	59.51	29.1	35.3	24.8	71.5	NE	.7	5.5	Ci.	Cu. NE	-------	
11	59.80	29.2	34.5	26.4	74.2	NE	1.2	4.5	Ci.	Cu. NE, E	-------	
12	59	28.6	35	25.1	72.3	Variable	.8	2.8	Ci.	Cu. E	-------	≡° a.
13	58.44	28.3	35.2	23.4	76.8	NE	.3	2.5	Ci.	Cu. E	-------	
14	58.53	28.7	35.3	23.4	77.2	NE	.3	1.5	Ci.	N. NE	-------	☇ p.
15	58.74	28.8	34.9	24	79.8	NNW, NE	.3	3.8	Ci.	N. SE	-------	☋° p.
16	58.45	29.2	35.3	24.8	77.8	N, NNE	.5	4.7	Ci.	Cu., Cu.-N.	-------	┼° ☇ p.
17	58.45	29.3	35.8	24.2	76.3	NE	.3	5.7	Ci., Ci.-S.	Variable	-------	☇ p.
18	58.75	29.5	36.1	24.8	76.3	NE	.5	4	Ci.	Cu. NE	-------	┼° ☇ p.
19	58.40	30.4	36.4	27.1	72.3	NE, E	.7	2	Ci.	Cu. E	-------	
20	57.57	29.7	36.4	26.4	73.2	NE	.7	2.2	Ci.	Cu. NE	-------	☋° p.
21	58.19	28.7	35.8	24.5	79	NE	.5	5.7	Ci.-S.	Cu., Cu.-N. NE, E	-------	┼° a. p. ☌° ☇ p.
22	58.18	28.6	35.9	23.9	81.2	NE	.5	5.8	Ci.	Cu. NE	-------	┼° ☾ ☋ p.
23	58.37	29.1	35.8	24.5	80.3	NE	.3	5.5	Ci.	Cu. E	-------	☇ ☋° p.
24	57.74	29.4	35.8	24.8	78	NE	.5	4	Ci.	Cu. E	-------	┼° ☇ ☋ p.
25	57.10	29.3	35.4	25.6	78	N, NE	.3	5	Ci.-S.	Cu. NE	-------	┼° a. p. ☇ p.
26	57.18	29.2	36	25	77.7	Variable	.7	5.5	Ci.	Cu.-N. NE	-------	☇ p.
27	57.55	29	34.3	25.3	77.3	S	.7	7.3	Ci.-S.	Cu. S	11	┼° a. ⌐☇ ☋ ☾ p.
28	58.54	27.4	33.7	24	83.2	NE	.7	7.8	Ci.-S.	Cu., N. S, NE	-------	● ⌐☇ a. ┼° ☇ p.
29	58.67	29.2	35.8	25.1	80.2	NE	.7	6	Ci., Ci.-S.	Cu.-N. NE	22.1	┼° a. ⌐☇ ☋° ☾° p.
30	58.48	28.7	34.9	23.1	84.3	Variable	.5	6.3	Ci.-S.	Cu.-N. SE	-------	⌐☇ ● a. ┼° ☇ p.
31	58.57	28	34.5	24.5	80.2	NW, S	.5	7.3	Ci.-S.	N. NE, S	1.5	☋ ● a. ┼ a. p. ☇ p.
Mean	758.57	28.7	35.2	24.3	77.4	----------	.5	4.5	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	34.6	

Meteorological data for first and second class stations—Continued.

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.30	26.9	32.2	22	79.3	Variable	1	2.8		S.-Cu. ESE		☋ p.
2	59.07	27.1	31.5	22.2	80.3	Variable	.8	4.2	Ci.-S.	S.-Cu. SSE		☋ a. p.
3	60.53	27.8	31.9	24	79.3	S, SSW	.5	6	A.-Cu. SSE	S.-Cu. E		☋ a. p.
4	60.45	26.7	32.2	22	79.3	Variable	.7	2.8	Ci.	Cu. NE		☋ ☊ a.
5	59.54	26.6	31.9	21.3	79.2	Variable	.8	2.8	Ci. SW	S.-Cu., Cu.		☊ a.
6	58.94	26.8	30.9	22.3	80.2	Variable	.5	2.7	Ci. SEbyS	S.-Cu.		
7	59.07	27.2	32.7	22	76.5	Variable	.7	2.8	Ci. SE	Cu.-N. ENE		
8	59.15	27	32.2	22.5	79	N quad.	.8	1.5	A.-Cu. W	S.-Cu.		
9	58.86	27.3	32.3	22.6	76	S	.7	2.3		S.-Cu. NNE		
10	60.04	26.6	33.3	21.7	81.3	N quad.	.8	6.2	A.-Cu. SSE	S.-Cu. ENE	10.4	d a. ● p.
11	60.07	26.5	32.1	22.6	84.8	S, W	.3	4	Ci.-S.	S.-Cu. ESE	4.8	d p.
12	59.40	26.8	32.7	22.3	82.3	Variable	.7	2	Ci.	S.-Cu., Cu.		☊ a.
13	58.68	27.5	32.3	22.9	78.3	Variable	.7	1.2	Ci.	S.-Cu., Cu.		☊ a.
14	58.86	28	33.4	24.7	78.7	Variable	.7	1.3	Ci.	S.-Cu. SSE		☾° p.
15	59	28.2	33.7	23	78.3	Variable	.7	1.5	Ci.	Cu.		
16	58.73	28.7	33.2	23.9	77.7	Variable	.7	2.3	Ci. E	Cu.		☾° p.
17	58.81	26.9	33.7	23.7	82.5	Variable	.5	2.7	Ci.	Cu.	2.5	⊤ ⌐⊼ d° ☾° ◠² p.
18	59.03	27.4	32.6	22.7	83.8	N quad.	.8	3.7	Ci. ENE	S.-Cu. ESE		⊤ ☾° p.
19	58.62	27.8	34.4	23.5	79.8	Variable	.5	3	Ci.	S.-Cu. E		⊤ ⌐⊼ p.
20	58.16	26.8	33.4	23.4	83.3	Variable	.7	3	Ci.-S.	Cu. NE		⌐⊼ p.
21	58.58	28	33.1	23.4	78.8	Variable	.7	3	Ci.-S.	S.-Cu. ESE		⊤ p.
22	58.67	28.1	33.3	24.1	79.3	Variable	.7	4.3	Ci. SSE	S.-Cu.		⊤° ☾ p.
23	58.61	28.4	32.6	23.3	75.3	Variable	.5	5.2	Ci. N, NNE	Cu.		☉° a. ☋ p.
24	58.10	28.1	34.2	23.8	80.2	S quad.	1.3	4.3	Ci.	Cu. NE	1.8	⊤ ⌐⊼ d ☾ p.
25	57.29	28.5	33	24.1	78.8	S, SSW	.3	4.3	Ci. SW	Cu.		⌐⊼ ☋ ☾ p.
26	57.50	28.5	33.3	23.3	77.3	S quad.	.7	1.2	Ci.-S.	Cu.		⊤ ☾ p.
27	57.92	27.5	34.2	24.3	81.8	Variable	.5	4.8	Ci. SE	S.-Cu. SbyE	1.3	⊤ a. p. ⌐⊼ d ◠° p.
28	58.71	28	33.6	23.6	82	Variable	.5	6.2	Ci.-S. SEbyS	N. ENE	2	☾ a. p. ⌐⊼ d ⊤° p.
29	59.12	28.4	33.2	24.3	80.8	Variable	.7	2.5	Ci., Ci.-S.	Cu.-N. ENE		⊤ ◠° ☋° p.
30	58.82	28.4	33.8	24.2	77.8	Variable	.7	2.8	Ci.-S.	S.-Cu. SSE		⊤ ☋ p.
31	58.70	27.2	33.1	23.5	82.8	N quad.	1	1.8	Ci.	Cu.	.5	⌐⊼ d° ☾ ☋° p.
Mean	758.88	27.5	32.9	23.2	79.8		.7	3.2				
Total											23.3	

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.77 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.43	28.6	34	24.5	71.8	NE	1.2	0.8		Cu.		
2	59.28	29	34.1	24.9	72.8	NE	1.2	.8		Cu.	1.5	
3	60.79	29	34	24.7	74.3	ENE	1	2.5		Cu. E		● a.
4	60.46	28.9	34.2	23.6	72	ENE, NE	1	1.3	Ci.	Cu. E		
5	59.56	28.5	34.2	21.9	71.3	ENE	.8	1.7	Ci.	Cu. NE		
6	58.79	28.1	35.3	20.6	73.7	ENE	.5	2	Ci.	Cu.		≡ a.
7	59.06	28.5	35.2	22.7	74.2	ENE	.7	1.5	A.-Cu. NNE	Cu.		≡° a.
8	59.13	28.5	34.8	21.8	74.7	NE	.8	3	A.-Cu. WNW, NNE	Cu. W		
9	58.96	29.2	34.5	24	70	ENE	1.2	3.2	Ci.	Cu.-N. NE	.8	
10	60.06	28.9	34.6	24	72.2	ENE, NE	1.2	1.8	Ci.	Cu. NE, E	2	●° a.
11	60.51	28	33.7	23	77.8	ENE	1.2	3.5	Ci.-S.	Cu. E	3	●° a.
12	59.44	29.5	34.8	25.4	72.2	NE, ENE	.8	1.7	Ci.	Cu.		
13	58.64	29	35.8	22.5	75.7	NE, ENE	.8	1	Ci.	Cu. E		≡° a.
14	58.82	29.6	36.9	22.6	74.3	ENE	.8	.8	Ci.	Cu. E		≡° a.
15	58.87	30	35.9	24.6	71.2	ENE	.8	1	Ci.	Cu.		
16	58.72	29.7	35.6	23.3	75	ENE	.7	1.7	Ci.	Cu. ESE		≡° a.
17	58.66	29.9	36	23.6	75.3	ENE	.7	2.2	Ci. E	Cu. SW		≡° a. ☾° p.
18	59.14	30.2	35.4	25.6	72	ENE, NE	.8	1.3	Ci. E	Cu.	.8	☾ p.
19	58.74	30.3	36	26.2	73.7	NE	1.2	1.8	Ci. W	Cu. E		●° a.
20	58.11	29.2	35.4	25.3	78.3	ENE, NE	1	2.7	Ci.-S.	Cu.-N. ESE	1.3	d a. ⊤ d p.
21	58.64	29.2	36	23.4	75.8	NE	.5	4.2	Ci.-S.	Cu., Cu.-N. S, SW		≡° a. ⊤ ☾ p.
22	58.66	28.8	35.4	22.5	74.7	ENE	.7	4	Ci.-S. NE	Cu.		≡° a. ⊤° ☾° p.
23	58.60	29.5	35.9	23.1	70.3	ENE	.5	2	Ci. N	Cu. E		☾° p.
24	58.12	29.2	36	22.9	73.5	ENE	.5	1.2	Ci. E	Cu.		☾° p.
25	57.34	29.1	35.9	22.5	74.2	ENE	.7	2.3	A.-Cu. NW	Cu. E		≡ a.
26	57.31	29.7	37	23.1	74.5	ENE	.5	1.3	A.-Cu. SW, NE	Cu.		
27	57.67	29.3	37.2	23.1	76.3	ENE	.5	2.8	Ci., A.-Cu.	Cu. SW, WSW	22.6	≡° a. ⊤ ● ☾ p.
28	58.68	29.2	35.5	23.4	76.3	ENE	.8	1.5	Ci. W	Cu. E		≡° a. ☾ p.
29	59.02	29.8	35.9	24.1	77.8	ENE	.7	1.5	Ci.	Cu. ENE		
30	58.63	29.8	35.9	25.1	77	ENE	.8	1.8	Ci.	Cu. ESE		
31	58.53	29.2	36.5	23.1	76.3	NNE	.5	1.7	Ci.	Cu., Cu.-N. NE, E		⊤° ☾ p.
Mean	758.88	29.2	35.4	23.6	74.2		.8	2				
Total											32	

Meteorological data for first and second class stations—Continued.

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.07	28.1	32.5	24	77	SW, N	1.5	3.5	Ci. SE	Cu. NE	-------	☋° a. p.
2	59.07	28.4	32	25.6	74	NE, N	1.7	4	Ci.	Cu. NE	-------	☋² a. p.
3	60.66	28.5	32	25.7	73.2	N	1.7	2.3	Ci. S	Cu. E	-------	☋² p.
4	60.36	29	32.4	26.9	71.5	NE	2	3.5	A.-Cu. NE, E	Cu. NE	-------	☋² a. ◟ p.
5	59.23	27.6	32.3	22.5	74	Variable	1.2	2	Ci. E	Cu. NE	-------	☋° p
6	58.31	28.6	35.8	22.8	68.7	SW	1.2	3.2	Ci.	Cu. SE	-------	☋² a. ◟° p.
7	58.61	28	33.2	24.4	79.7	SW	1.5	6.3	A.-Cu. NE	S.-Cu. SE	-------	d° a. p. ◟ p.
8	58.96	27.5	31.1	25.2	78.5	E, SW	.7	9.7	A.-Cu. E	S.-Cu. Variable	-------	◸◪ d° a.
9	58.79	27.5	31.4	24.8	81.7	NW quad.	1.2	8.5	Ci. NE	S.-Cu. NE	29.5	d ⌒° a. ◸◪ ●² ◟ p.
10	59.95	28.4	32.3	24.1	72.5	NE, E	2	4.5	Ci. NE	Cu. E	-------	
11	60.14	29.3	33	26.7	72.3	E	2	4.5	A.-Cu. ENE, E	Cu. E	-------	
12	59.12	28.6	33	24.8	74.2	Variable	1.5	3	A.-Cu. E	Cu. NE, E	-------	
13	58.37	28.8	35.4	23.5	75.2	SW	1	2	Ci.	Cu. SE	-------	
14	58.42	29.3	36.5	24.4	70	SW	1	2.7	Ci. NNE	Cu. S	-------	◟° p.
15	58.44	29.4	35.5	24.5	70.8	SW	1.2	4.7	Ci. NE, NW	Cu. SW	-------	◟° p.
16	58.14	29.8	36	25	70.3	SW	1	4.7	Ci. NNE, N	Cu. S	-------	
17	58.18	28.8	35	24.4	77	SW	1	4.8	Ci., Ci.-S. E, ENE	Cu. S	-------	⊤ p.
18	58.88	29.4	33.6	24.5	76.7	NE	1.7	3	Ci.-Cu. E	Cu. SE	-------	◸◪ ◟° p.
19	58.76	29.6	32.3	27.6	74.3	N quad.	2.2	2.7	Ci.	Cu. NE, E	-------	
20	57.82	29.8	33	26.4	75.7	NE, E	1.2	4.2	Ci. NE, N	Cu. NE	-------	⊤° a. ◸☌° ◟² p.
21	58.23	28.8	33.4	24.7	78.5	SW, NE	1	6.5	A.-Cu. NE	Cu. NE	.3	●° a. ◸◪ a. p. ◟² p.
22	58.41	28.4	34.4	24.5	78	SW	1	8.5	Ci.-S. NE, ENE	Cu.-N. S	-------	d² ◸◪ ◟° p.
23	58.49	27.6	32.2	25.2	84.2	◂ SW	.8	7.7	A.-Cu. E	Cu.-N. NE	1.5	● a. ◸◪ a. p. ◟² p.
24	57.83	28.1	32.4	24.1	79.2	SW, N	1.2	8.5	A.-Cu. SW	Cu.-N. SW	-------	◸◪ ◟ ⌣² p.
25	57.16	28.4	32.6	24.8	80.3	SW	1.3	6.2	Ci. NE	S.-Cu. NE	3.8	◸◪ ● ◟ p.
26	57.05	28.5	34.8	24.4	80.5	SW quad.	1	4.8	Ci. E	Cu. SW	-------	◸◪ p.
27	57.31	28.7	34.4	23.8	76.2	SW	1.2	5.3	Ci., A.-S.	Cu., Cu.-N. sw, w	20.3	◸◪ ● p.
28	58.51	27.3	33.4	23.8	86.3	SW	1	7.3	Ci.	Cu.-N. NE, SSW	1.8	☊² ≡° a. ◸◪ ●° p.
29	58.86	28.8	32.4	24.7	79.5	SW	.8	5.5	Ci.	Cu.-N. SE, S	-------	☊ ≡° a. ◸☌° ◟ p.
30	58.44	29.1	35.3	25.3	80.3	SW	1	3.7	Ci.	Cu. NE	-------	◟° ≡° a. ◸☌° ◟ p.
31	58.10	29.6	36.2	25.3	79.3	SW quad.	1	5.7	Ci.	Cu. S	-------	☊° a. ◸◪ ◟° p.
Mean	758.60	28.6	33.5	24.8	76.4	----------	1.3	5			-------	
Total	-------	------	------	------	------	----------	-------	-------	----------	----------	57.2	

PARACALE.

[ϕ=14° 17′ N; λ=122° 47′ E; barometer above sea, 5.3 meters; gravity correction not applied, —1.73 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.39	27.2	33.1	22.7	82.7	E	0.7	0.8	Ci.	Cu. E	-------	☊ a.
2	59.50	27.5	33.2	22.9	79.7	NE	1	1.3	Ci.	Cu. E	-------	☊ a.
3	60.99	27.9	32.7	24	77.8	NE	.8	4.7	Ci.	Cu. E	-------	☊ a.
4	60.72	27.4	33.3	23.2	81.3	NE	.7	1.8	Ci.	Cu. E	-------	☊ a.
5	59.60	27.2	33.4	22.1	77.5	NE	.7	2.5	Ci.	Cu. ENE	-------	☋° ☊ a.
6	58.66	27.8	34.2	22.5	78.3	NE	.5	1.7	Ci.	Cu. SW	-------	☊ a. ◟ p.
7	58.93	28.5	34.3	23.9	79	NE	.5	1.3	Ci.	Cu. SW	-------	☊ a. ◟° p.
8	59.26	27.4	33.5	24.4	81.5	W, WSW	.3	7.5	Ci.-S.	Cu. SW	-------	
9	58.96	27.9	33.7	23.5	78.7	ENE	1	5.2	Ci., Ci.-S.	Cu. ENE	1	●° ⌒ a.
10	60.39	28.5	33.4	23.8	74.5	NE	1	1.7	Ci.	Cu. E	-------	☊ a.
11	60.49	28.9	34.3	25.8	73.8	E quad.	1	1.5	Ci.	Cu. E	-------	☊° a.
12	59.40	28.2	34.1	24.1	78.5	E	.7	1.8	Ci.	Cu. E, ESE	-------	☊ a.
13	58.54	28.8	34.8	23.5	77.3	NE	.8	1.3	Ci.	Cu. WSW	-------	☊ a. ◟ p.
14	58.69	28.9	35.2	24.3	79.2	NE	.8	4	Ci.	Cu. SW	-------	☊ a.
15	58.64	29.4	34.8	25	77.8	NE	.7	2.5	Ci.	Cu. SW	-------	☊ a.
16	58.25	29.1	35	24.4	79.8	NE	.7	3.5	Ci.	Cu. SW	-------	☊ a.
17	58.39	29.4	35.1	24.3	77.7	E, NNW	.3	5	Ci.-S.	Cu. SW	-------	☊ ⊕ a. ⊤ p.
18	59.27	28.8	34.7	24.2	80.2	NE	.7	.8	Ci.	Cu. E	-------	☊ a. ◟ p.
19	59.05	27.4	32.5	24	88	NNE	.3	4.3	Ci.	Cu. E	2.5	☊ d° ● a.
20	58.17	28.7	34.3	24.7	81.5	NE	.7	4.3	Ci.	Cu. E	-------	☊ d a. ⊤ ◟ p.
21	58.65	27.7	34.8	24.2	84.3	Variable	.5	5.8	Ci.	Cu. E	6.1	☊ ● a. ●° ⊤ ◟ p.
22	58.71	27.3	33.9	23.4	84.2	NE, ENE	.5	8.7	Ci.-S.	Cu. SW, ENE	-------	☊ ⊕ a. ⊤ ◟ ☋ p.
23	58.71	27.6	34.9	23.6	84.3	NE	.2	4	Ci., A.-Cu. WSW	Cu. S	13.7	☊ ◟ a. p. ◸◪ ● p.
24	58.04	28.2	34	24.6	84.3	NE	.5	4.8	Ci., Ci.-S.	Cu. NNE	-------	☊² a. ⊤ ⌒ ◟ ☋ p.
25	57.30	28.6	34	24.2	82.2	NE	.5	2.3	Ci.	Cu. W, NE	-------	☊² a. ◟ a. p.
26	57.34	28.8	35	24.4	80.3	NNE, ENE	.5	1.5	Ci.	Cu. W	-------	☊ ◟ a. ⊤ ◟° p.
27	57.46	29	35.3	24.5	79.5	NE	.8	3	Ci.	Cu. SW	11.7	☊ a. ◟² ● p.
28	58.75	28.8	34.3	23.5	79.2	NE	.5	5.8	Ci.	Cu. SW	-------	☊² a. ◸◪ ◟ p.
29	59.26	29.1	35	25.2	81.8	NE	.7	1.5	Ci.	Cu. SW, NE	-------	☊² a. ⊤ p.
30	58.74	28.3	34.8	24.7	84.2	ENE, SW	.5	2.5	Ci.	Cu. S	12.2	☊ a. ⊤ ● p.
31	58.38	28	34.3	23.2	81.5	Variable	.5	4.8	Ci.	Cu. SW	.8	☊² a. ◸◪ ●° ◟ ☋ p.
Mean	758.89	28.3	34.2	24	80.3	----------	.6	3.3			-------	
Total	-------	------	------	------	------	----------	-------	-------	----------	----------	48	

Meteorological data for first and second class stations—Continued.

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.80	30.3	37	25.4	68.8	SE quad.	1.3	8.2	Ci., Ci.-S.	N., Cu. SE quad.	5.3	○ ● ⊤ ≤ p.
2	58.72	29.8	36.3	25	66.5	ESE	2.5	5.5	A.-Cu. SE	Cu. E	-------	
3	60.39	30.5	37.6	23.5	60.3	ENE	2.7	5.2	A.-Cu.	Cu. E	-------	☊ a.
4	60.15	30.4	39	25.4	66.8	NE quad.	1.8	7	Ci.-S.	Cu.-N. E, N	5	☊ a. ● ⌐◪ ≤ p.
5	59.15	29.3	37.4	24.6	76.5	N	1.5	8	Ci.-S.	N. SE	-------	d a. ≤ ⊤ p.
6	58.47	30	38	24.4	71.3	N	1.7	5.2	Ci.	Cu. W	-------	☊ ☰° a. d° ⊤ ≤ p.
7	58.67	30.1	38.5	23.5	70.5	Variable	2.2	5.5	Ci.	Cu. SE	1	☊ ☰° a. d ⌐◪ ≤ p.
8	59.26	28	35.8	24	80	W quad.	1.8	8	Ci.-S., A.-Cu.	N. NW	-------	⊤ ≤ p.
9	58.62	29	36.2	23.4	71.3	N	2.3	5.8	Ci.	Cu.-N.	-------	☊ ☰° a. ⊤ ≤ p.
10	59.97	28.9	35.9	23.5	71.3	ESE	2.7	5.2	A.-Cu. E	Cu. ESE	-------	☊° a. p.
11	60	29.2	37	22.5	66.8	E quad.	1.7	3.3	A.-Cu.	Cu. SE	-------	☊ a.
12	59.12	29.7	38.3	23.4	69.2	E quad.	2.3	5.2	A.-Cu. E	Cu. SE	28.7	☊ a. ●² p.
13	58.46	30	37.3	25	72.2	N, SW	2	5.8	Ci.	Cu. W, NW	-------	
14	58.48	30.3	38.6	24.5	69.7	NNE	1.7	5.3	A.-Cu. SE	Cu. W	-------	☊ a. ≤ p.
15	58.71	30	38.4	23.9	67.3	NE quad.	1.8	4.7	Ci. SE	Cu. E	-------	≤ a. ☊ a. p.
16	58.36	30.8	39.2	23.2	61.8	SW, N	1.7	3.7	Ci.	Cu. SE, SW	-------	☊ a.
17	58.27	31.1	39.2	23.9	63.2	N	1.8	4.3	Ci. SE	Cu. W	-------	☊ a. ≤ p.
18	58.96	30.5	40.3	24.4	67.2	NE	1.3	4.5	Ci.	Cu. ESE	-------	☊ a. ≤ p.
19	58.66	30.9	39.7	24.5	61.5	NE	2.2	4.3	A.-Cu. E	Cu. ESE	-------	☊ a. ⌐◪ ≤ p.
20	57.90	29.4	39.1	24.4	70.5	NE	1.5	6.3	A.-Cu. E	Cu. E quad.	3.6	☊ a. d² ⌐◪ p.
21	58.62	27.5	35.2	23.8	84.5	SW	1.3	7.5	Ci.-S.	Variable SW	6.4	☰ a. ≤ ⌐◪ ● p.
22	58.78	28	36.7	23.5	81.2	NE quad.	2.2	7.7	Ci. NE	Variable	21.1	⌐◪ ● ⌿ p.
23	58.74	27.9	36	23.4	83.3	NE quad.	1.5	7.3	Ci.-S.	Cu. E	-------	☰² a. ⊤ ≤ p.
24	58.15	27.8	36.3	23.8	81.3	SE	1.8	6.7	Ci. NE, E	Cu. ESE	9.9	☊ ☰° ○ a. ⌐◪ ● p.
25	57.24	28.5	37	23.4	79.2	NE	1.8	6.2	Ci.-S., Ci.	Variable	3.3	☰ a. ● ⌐◪ p.
26	57.48	28	36.2	23.3	84.7	NE, SE	1.3	5.3	Ci.-S. SE	Cu. W, SW	11.2	☰ a. ● ⊤ p.
27	57.92	27.7	35.7	23.6	87	NE, SE	1.3	6.5	Ci. NE	Cu. SW	44.5	≤ a. p. ⌐◪ ●² p.
28	58.89	27.2	35.1	23.4	86.5	SE	1.5	7.2	Ci.-S. SE	Cu. SE	-------	≤ ⊤ a. p. ◠ p.
29	59.09	29	37	24.1	77.2	S quad.	1.7	5	Ci. ENE	Cu.-N. SW	-------	≤ a. p. ⌐◪ d° p.
30	58.70	29.4	37.9	24.1	75.2	NE	1.8	5	Ci.-S., Ci.	Cu. S, SE	1.5	☊² a. ⌐◪ ≤ p.
31	58.81	28.7	35.6	23.9	78.7	NE	1.5	8.3	A.-Cu. SE	N. W, S	-------	d a. ⊤ ≤ p.
Mean	758.73	29.3	37.3	24	73.3	----------	1.8	5.9	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	141.5	

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.16	29.9	37.4	26.4	81.3	NW	1.7	7.7	A.-Cu.	Cu.-N., S.-Cu. NW, SE	-------	⌐◪ a. ≤ ⊤ p.
2	57.87	29.8	35.9	25.1	77.3	NW	1.5	4.3	----------	Cu. SE	-------	≤ p.
3	59.60	30	37.8	25.3	73.3	NW	2.2	2.5	Ci.	Cu.	3	
4	59.66	29.4	34.2	25	80.8	NW	1.8	7.2	A.-Cu.	Cu., S.-Cu.	-------	p ≤ ⌐◪ a.
5	58.60	29.9	37.5	26	77.8	Variable	1.3	7.5	A.-Cu.	Cu.-N., S.-Cu. SW, SE	-------	d° ≤ ⊤ p.
6	58.05	28.8	34	24.6	83.8	NW	1.3	2.7	Ci., A.-Cu.	Cu., S.-Cu.	-------	≤° p.
7	58.22	28.5	34.1	23.8	82.8	NW	1.7	2.2	----------	Cu., S.-Cu.	-------	≤ p.
8	58.56	28.9	32.5	25.8	84.2	NW	1	6.3	A.-Cu.	S.-Cu. NW	-------	≤° p.
9	58.06	28.7	34.1	23	84.2	N quad.	1.2	8	A.-Cu.	Cu., N.	71.1	●² ≤ ⌐◪ d° p² p.
10	58.95	29	37	24.2	77.2	SE, N	1.8	7	Ci.	S.-Cu. SE	4.6	d° p° ≤ ⊤ p.
11	59.20	29.4	37.2	23.9	73.2	SE, NW	1.3	3	Ci.	Cu.	-------	≤ ⊤ d a.
12	58.62	29.4	36.4	24.2	77.7	NW	1.7	2.3	Ci.	Cu., S.-Cu.	-------	≤ p.
13	57.97	29.7	33.9	25.8	77	NW	1.3	5.7	Ci.	Cu., S.-Cu.	-------	≤ p.
14	57.95	30	34.6	26.3	74	NW	1.3	5.5	Ci.-S.	Cu., S.-Cu.	-------	≤° p.
15	58.11	29.9	35	24.8	71.2	N, NW	1.3	3.3	Ci.	Cu.	-------	≤ a.
16	57.89	29.6	34.9	23.7	72.7	NW	1.2	4	Ci.-S.	Cu. SE	-------	
17	57.85	29.7	34.6	24.5	74.7	NW	1	1.8	Ci.	Cu.	-------	≤° p.
18	58.35	29.4	35.7	24	79	NW	1.2	4.5	Ci.-S.	Cu., S.-Cu.	-------	≤° p.
19	58.16	29.5	35.1	25.6	79.5	NE, NW	.7	3.3	Ci.	Cu., S.-Cu.	.5	≤ ⊤ d° ◠² p.
20	57.38	29.2	36	24.3	76.2	NW	1.2	4.7	A.-Cu.	S.-Cu.	-------	≤° ⊤° p.
21	57.96	29.2	34.4	24.6	77.8	NW	1.2	6.5	Variable.	Cu., S.-Cu.	-------	≤° ⌐◪ p.
22	58.01	28.9	33.2	24.5	78.8	NW	1.3	5.8	Ci.-S.	S.-Cu.	-------	○° a. ≤ ⊤ p.
23	58.02	29.6	35.3	24.6	76.2	N quad.	1.2	6.5	Ci.-S.	Cu. SE	-------	≤° a. p. ⌐◪ d° ◠ p.
24	57.54	29.3	34.4	24.4	80.2	E, NW	1.5	5.8	Ci.-S.	Cu., S.-Cu.	-------	≤° a. p. ☋° p.
25	56.78	29.1	35.3	25	81.2	SE, NW	1.2	6	Ci.-S.	Cu.-N., Cu.	-------	≤ ⊤ ∪° ☋° p.
26	56.69	28.5	34	24.4	84.3	NW quad.	.8	7	Ci.-S., A.-Cu.	S.-Cu.	41.2	≤ ⌐◪ p² ● p.
27	57.14	28.5	33.6	24.8	86.8	SE, NW	1.5	6.7	Ci.-S., A.-Cu.	Cu.-N., Cu.	.3	≤° a. ≤ ⊤ d° ☋ p.
28	57.86	29.4	36.5	24.4	81.5	SE	1.2	7.2	A.-Cu.	S.-Cu.	-------	≤° ⊤ p.
29	58.43	29.4	36.2	24.7	84.5	S quad.	1.5	6.2	Ci.-S.	Cu., N.	17.3	◠² d ≤ ⌐◪² p² p.
30	58.05	29.1	36.6	24.5	84.7	SE, NW	1.3	6.2	Ci.	Cu., S.-Cu.	38.6	d² a. ≤ ⌐◪² p² p.
31	58.07	28.6	33.2	24	82.8	Variable	.7	8.7	A.-Cu.	S.-Cu. SE	22.9	⌐◪ p² a. ⌐◪² p p.
Mean	758.09	29.3	35.2	24.7	79.2	----------	1.3	5.4	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	199.5	

Meteorological data for first and second class stations—Continued.

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 9.7 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.42	29.8	34.8	26.7	77.3	Variable	2.7	10	Ci.-S.	S.-Cu.	6.3	● a. p. ⊤ ↘ p.
2	58.08	29.3	35.2	25.4	77.8	S, N	2.7	7.3	Ci.-S.	S.-Cu.	-------	☊ ≡° a. ↘ p.
3	59.90	30	35.4	25.5	72.5	SSE, WNW	2.8	4.5	Ci.-S.	S.-Cu.	.8	☊ a. ●° p.
4	59.97	30	34.6	27.9	76.7	N quad.	3.5	7.7	Ci.-S.	Cu. NE	-------	↘ p.
5	58.73	30.4	35	27.2	73	N quad.	3	6.3	Ci.-S.	S.-Cu.	-------	⊤ ↘ p.
6	58.27	28.7	34.5	24.3	78.2	S, W	2.5	2.8	Ci.-S.	Cu.	-------	☊° a. ↘ p.
7	58.41	29	34.9	23.9	76.3	NW quad.	2.5	3.5	Ci.-S.	Cu.	-------	☊ a. ↘ p.
8	58.68	29	34	25.2	78.2	S, NW	2.2	9.7	Ci.-S.	S.-Cu.	-------	⌒ d° ⊤ a. ↘ p.
9	58.18	29	35	24.4	77.2	Variable	3.3	8.8	Ci.-S.	S.-Cu.	-------	⊤ ↘ p.
10	59.08	30	36	25.6	68.7	S, WNW	3.2	8.2	Ci.-S.	S.-Cu.	-------	↘ p.
11	59.52	30.3	36.1	25.9	71	Variable	2.8	6.5	Ci.-S.	S.-Cu.	-------	
12	58.74	30.5	36.1	25.6	73.2	S, WNW	3.2	4.2	Ci.-S.	Cu. NW	-------	
13	58.11	29.9	35.5	25.9	76.8	N quad.	2.7	8	Ci.-S.	S.-Cu.	-------	
14	58.18	29.4	34.9	25.6	78.5	S, WNW	2.5	9.7	Ci.-S.	S.-Cu.	.8	p a.
15	58.26	29.1	36	24.6	78	SW quad.	2.8	10	Ci.-S.	Cu., S.-Cu.	-------	
16	57.89	29.4	36	24.9	78.2	W quad.	3.2	9.2	Ci.-S.	Cu., S.-Cu.	-------	
17	58.12	29.3	35.4	24.4	76.2	S, W	2.5	4.5	Ci.-S.	Cu.	-------	
18	58.83	29.1	35.5	23.2	77.5	NNE	3	7.8	Ci.-S.	Cu., Cu.-N.	-------	☊° a. ⌈↯ p.
19	58.40	30.9	35.6	28.5	74	N quad.	3.3	7.3	Ci.	S.-Cu.	-------	⊤ p.
20	57.44	30.7	35.5	27.4	71.2	N quad.	3	9.2	Ci.-S.	Fr.-Cu. NNE	-------	⌒ ↘ p.
21	58.12	29.9	34.6	26.1	72.5	NW quad.	2.8	9	Ci.-S.	S.-Cu.	-------	⊤ d a.
22	58.38	30.4	35.5	25.8	67.3	NW	3.3	9.3	Ci.-S.	Fr.-Cu. NW	-------	↘ p.
23	58.33	29.8	35.1	24.4	65.5	S, WNW	3	9	Ci.-S.	Cu.-N.	-------	
24	57.65	30.1	35.4	25	70.3	Variable	3	9.5	Ci.-S.	Fr.-Cu. WNW, NW	-------	⊤ ↘ ∪° p.
25	56.89	30.5	36.1	26.5	71.7	SE, NNE	3	7	Ci.-S.	Cu.	.3	⊤ ⌈↯ ●° ↘ p.
26	56.82	30.2	36	26.4	75.7	NW quad.	3.3	10	Ci.-S.	Cu.-N.	-------	⊤ a. p.
27	57.23	30.3	36	26.1	73.3	N quad.	2.8	8.8	Ci.-S.	Cu.	-------	⊤ a.
28	57.90	30.2	36.1	26.7	76.2	SE quad.	2.7	10	Ci.-S.	Cu. SE	6.4	⌈↯ ↘ p.
29	58.56	29	34.1	26.1	81.8	SE, W	2.7	9.2	Ci.-S.	Fr.-Cu. WNW	2.5	⊤ a. ●° a. p. ⌈↯ p.
30	58.16	30.5	36	26.3	73.7	SE	2.8	9	Ci.-S.	Cu.	-------	⊤ a. p.
31	58.11	28.7	33.6	26.2	80.2	S	2	10	Ci.-S.	Cu.-N.	1.5	● ⌈↯ a. ⊤ ○² ∪° p.
Mean	758.27	29.8	35.3	25.7	74.8	-------	2.9	7.9	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	18.6	

BAGUIO.[a]

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1,512.5 meters; gravity correction not applied, —1.65 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	636.06	19.4	26.3	17.2	87	Variable	2	8.1	Ci.	Fr.-Cu., S.-Cu. WbyS, S	3.1	≡° a. p. ⌈↯ ●° p.
2	36.85	19.3	24.3	16.6	85.3	Variable	1.8	6.7	Ci.	Cu.-N. E	-------	☊ a.
3	38.22	19.8	27.2	16.3	85.2	W quad.	1.3	5.7	Ci.-Cu.	Cu. W	-------	☊ ○○° a. ≡° p.
4	38.13	19.9	24.9	16.5	85.5	SW quad.	1.2	8.1	Ci.	Fr.-N. W	-------	☊ ≡ a. ⌈↯ p.
5	37.07	19	27.2	16.6	86.3	Variable	1.5	8	A.-Cu. NW	Fr.-N. Variable	48	d ●² ⌈↯° p.
6	36.70	19.2	24.9	16.2	78.5	W quad.	1.5	4	Ci.	S.-Cu. W	4.6	● ≡° p.
7	36.85	19.5	25.5	16.4	83.2	W quad.	1.5	5	Ci.	Cu. W	-------	☊ a. ≡° p.
8	36.89	18.6	23.4	15.4	81.8	W	1.3	7	A.-Cu., Ci. NW	Cu.	3.6	●° a. p. ≡° p.
9	36.50	18.7	24	15.7	88	W quad.	1.5	8.1	Ci.	Cu.-N. ESE	1	☊ a. ≡° ⊤° ●° p.
10	37.48	19.4	25.5	15.7	76.5	E quad.	1.7	6.7	A.-Cu., Ci.	Cu. SSE	22.6	d° ● p.
11	37.86	18.5	24.3	16.3	92.2	W	1.5	7	A.-Cu. EbyN	N., Fr.-Cu. W	-------	≡ p.
12	37.11	18.5	25.8	15.8	90.7	W quad.	1.7	7	-------	Cu. W	-------	☊ a. ≡° d p.
13	36.68	18.5	25.8	17	89.2	W quad.	1.2	8.3	Ci.	S. W	1.8	☊ a. ⌈↯ ≡² p.
14	36.86	19.1	24.4	16.6	88	W	1.3	8.7	A.-Cu.	Cu.-N. WSW	.8	●° ≡ p.
15	37	19.8	25.6	16.1	78.2	W	1.5	7.1	Ci.	Cu., S.-Cu. W	-------	
16	36.78	19.9	25	16.1	75.7	W quad.	1.3	7	Ci.-S.	Cu. WbyS	-------	☊ ○° a. ≡° p.
17	36.86	20.4	25.9	16.9	75.5	W quad.	1.7	5.1	Ci.	Fr.-N. W	-------	≡° p.
18	37.38	20.3	27.2	16.8	80.5	E quad.	2	6.7	Ci. NE	Cu. ENE	.5	○○° a. ≡° ⊤° ●° p.
19	37.25	19.6	26.5	16.2	79.8	W	1.7	7	Ci.	cu., S.-Cu. N, WSW	19.5	≡° ⌈↯ ●² ⌒² d p.
20	36.51	19.2	25.6	16.6	76	Variable	1.2	6.6	Ci. WSW	Cu. EbyS	19.8	d ⌈↯ ●² p.
21	36.68	18.9	23.8	16.9	82.8	W quad.	1.3	7.6	Ci.	Cu. NW	-------	⊤ d ⌒° p.
22	36.75	19.5	24.8	16.3	80.7	NW quad.	1.3	7.7	Ci. Variable	Cu. NNW	-------	☊ a. ⌈↯ d° ⌒² p.
23	36.71	18.8	25.3	16.2	89.3	Variable	1.7	9	Ci.	Variable	34.9	d° a. ≡ ⊤ ● p.
24	36.39	19.8	25	15.8	82.7	W quad.	1.3	5.7	Ci.	Cu.	1.8	⊤° ≡ ● p.
25	35.76	19.4	25.4	17.1	89.7	Variable	1.2	7.1	Ci.	Cu.-N. NW	20.1	≡ ○ ● ⌈↯² p.
26	35.84	18.6	24.4	16.8	88.2	Variable	1.3	8.4	Ci.-S., A.-S.	Cu.-N. NW	13.1	○° a. ● ⌈↯ ≡ p.
27	36.05	19	24.3	16.7	85.5	W quad.	1.5	7.3	Ci.	Cu.	26.2	⌈↯ ● ≡ d² ⌒ p.
28	36.96	19.9	24	16.8	85.5	E quad.	1.3	8.3	Ci. NW	Cu. SE	1.1	≡° a. ⌈↯ ●° p.
29	37.39	20	24.4	17.5	87	E quad.	1.5	7.1	Ci.	Cu.	1	☊ a. ≡° ● ⊤ d p.
30	37.06	19.7	25.2	17.2	90.3	W quad.	1.3	7.7	Ci., Ci.-S.	Fr.-N., Fr.-Cu. WSW	9.4	○° a. ● ⌒° ≡ ⌈↯ p.
31	36.99	19.6	23.5	17.3	91.8	W	1	9.7	A.-Cu., Ci.	Fr.-N. WNW	.5	☊ ≡ a. ⊤ ●° p.
Mean	636.89	19.3	25.1	16.5	84.4	-------	1.5	7.2	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	233.4	

[a] The barometric readings of this station are not reduced to sea level.

Meteorological data for first and second class stations—Continued.

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 14.7 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.64	29.4	34.3	24.9	68.7	NW quad.	1.2	4.7	A.-Cu. SSW	Cu. NW	-------	☾ p.
2	58.30	29.6	35	25	66.3	SE quad.	1.2	3	Ci.-S. SW	Cu. NW	-------	○ p.
3	60.12	29.8	34	26.4	72	SE quad.	1.3	3.2	A.-Cu.	Cu. SSW	-------	
4	59.89	29.6	35.2	25.4	72	N quad.	1.8	2.2	A.-Cu.	Cu. NW	-------	↙° p.
5	58.79	28.9	34.1	25.4	75.5	SW	1	1	A.-Cu.	Cu. WNW	-------	
6	58.50	28.6	33.6	24.4	74	NW quad.	1	1.8	Ci.-S.	Cu. SW	-------	☾ p.
7	58.57	29.3	34.8	24.8	72.3	NW quad.	.8	1	Ci.-S.	Cu.	-------	☾ p.
8	58.89	27.9	32.3	24.7	79	SSW	.3	8.8	A.-Cu. SW	Cu.-N. SSW, SW	-------	⌒ a. ☾ d° a. p.
9	58.18	28.8	34.6	23.8	68.8	NW quad.	.8	1.8	Ci.	Cu.	-------	☾ p.
10	59.50	29.8	34	26.7	68	SSW	1.2	5.2	A.-Cu. SSE	Cu. WSW	-------	
11	59.81	29.2	33.5	25.2	76.2	Variable	1	2.7	Ci.-S.	Cu. SSW, W	-------	
12	58.95	29.3	34.3	25.7	76	W quad.	.8	2.2	Ci.-Cu. SSE	Cu. WNW	-------	
13	58.24	29.2	34.8	24.6	74	NNW	.7	2.7	Ci.	Cu. WNW	-------	
14	58.26	29.5	34.8	24.7	72.5	W quad.	.7	3.7	Ci. SSW	Cu. SW	-------	
15	58.39	29.6	33.7	25.7	76.2	S quad.	1	3.8	A.-Cu. S	Cu. SSW	-------	
16	58.10	29.9	33.2	26.2	78	SSE, SSW	1	6.3	Ci.-S. NNE	Cu. SSW	-------	
17	58.28	29.8	33.9	26.8	76.5	S quad.	1	7	A.-Cu. ESE	Cu. SW quad.	-------	d° a.
18	59.03	29.8	34.6	25.5	75.8	NW quad.	1	5	A.-Cu. NNW	Cu. WSW	-------	d° a. ☈ ☾ p.
19	58.54	29.5	34.7	25.6	77.5	NNW	1.3	2.8	A.-Cu.	Cu.	-------	☾ a. ☈ d° p.
20	57.62	29.4	34.6	25.8	77.2	N quad.	1	3.5	Ci.	Cu. SSW	-------	☈ d° p.
21	58.36	28.9	34.9	25.1	76.7	N quad.	1	3.7	Ci.	Cu. SSE, WSW	-------	
22	58.66	28.3	34.2	24.3	75.5	NNW	.8	3.2	Ci. NNE	Cu. NE	-------	
23	58.39	28.7	34.5	23.8	74.2	Variable	.7	2.5	Ci.	Cu.	-------	
24	57.82	29.5	35	24.2	74	NW quad.	1	3.3	Ci.	Cu. NNW	-------	
25	57.02	29.6	34.7	25.5	75.8	N quad.	1.2	4.8	Ci. NE	Cu. NNW	0.5	d ☾ ☋ p.
26	57.04	29.8	35.4	25.5	76.3	N quad.	1	5.8	Ci. NE	Cu.	-------	☈ d° ☾ ☋ p.
27	57.25	29.9	35.3	25.8	75.5	N quad.	2	5.2	Ci.-S.	Cu. NW	-------	☈ ☡ p.
28	57.98	30.1	34.8	25.7	74.3	Variable	1	6.3	Ci. NE	Cu.	-------	☋ ☾ ☡ p.
29	58.71	30.2	34.6	27	72.3	SE quad.	1.2	6	Ci.-S. NE	Cu. S quad.	-------	☈ ☾ ☡ p.
30	58.30	30.4	34.7	26.2	68.8	W quad.	1.2	3.7	Ci.	Cu. W	-------	☾ p.
31	58.39	29.7	34.5	26.2	70.7	W quad.	1.2	7.3	Ci.-S. N	Cu. SW	-------	⊤ a. ☾ a. p. ☡ p.
Mean	758.44	29.4	34.4	25.4	73.9		1	4			-------	
Total	-------	-------	-------	-------	-------		-------	-------			.5	

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea. 23 meters; gravity correction not applied, —1.61 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.81	28.5	39.6	24.5	76	Variable	1.3	9.2	A.-Cu. SW	Cu.-N. S, SW	3.8	d a. ⊤ ● d° p.
2	58.72	29.5	38.6	24	68.8	SW	.5	5.5	Ci.-S.	Cu. S	-------	⊤ ☾ p.
3	60.12	30.2	39.6	23.2	65.3	SE quad.	1.3	1.5	Ci., Ci.-Cu.	Variable	-------	☊ a. ☾ p.
4	60.18	30.3	38.8	25	67	NW	1	3.3	Ci.	Cu. NE	-------	☊ a.
5	58.79	28.9	39.5	23.7	71.8	S, NW	1	5.2	-------	Cu. S	-------	⊤ d° ☈ ☾ p.
6	58.17	29.1	39.5	24.1	70.7	SE, N	1.2	5.2	A.-Cu.	Cu. S	1.8	☈ ● p.
7	58.56	29.2	39.6	23.5	73.3	S quad.	.8	6	-------	Cu.-N. N	2.8	⊤ ☾ ☈ p p.
8	58.94	27.5	36	23.5	78.3	SE quad.	.8	8.2	A.-Cu. SW	Cu.-N. SW, S	6.1	p a. ● ☾ ☈ p.
9	59.14	27.7	37.1	23.8	81	SE, SW	.8	8.8	-------	Cu.-N. S, SW	11.2	● ☈ ☾ ☾ p p.
10	59.98	28.7	36.8	23	72.8	SE, NE	1	6.2	A.-Cu., Ci.-S.	Variable S	-------	d° a. ☾ p.
11	59.89	29.2	38.6	23.6	70.5	NW	.7	1.8	Ci.	Cu.-N.	-------	☊ a.
12	58.82	29	39.5	23.5	70	SE, NE	1	4.2	A.-Cu., Ci.	Variable	-------	☊ a. ☾ p.
13	57.95	29.8	39.4	25	69.5	NW quad.	.7	8.2	Ci.	Cu.-N. SW, NE	-------	☊ a. ☾ p.
14	58.19	29.5	39.5	25.5	70	NE quad.	1	7.2	-------	Cu.-N. N	-------	d° a. p. ⊤ ☾ p.
15	57.84	30.1	38.4	26	68.8	SE	1.5	7.3	-------	Cu.-N. Variable	-------	d° a.
16	57.19	31.1	40.4	25	68.3	N quad.	1.3	6.2	Ci.	Cu. S	-------	☊ a.
17	57.70	30.8	40.4	25	68.2	SE, NW	1.7	5.2	A.-Cu. E	Cu. S	-------	☊ a. ⊤ ☈ ☾ ☾ p.
18	58.82	30.6	40.2	25.1	70.3	SE	1.2	6.2	Ci.-Cu.	Cu. SSW, S	-------	☊ a. ☈ ☾ ☾² p.
19	58.69	31	40.5	25.3	68	Variable	.7	6.5	-------	Cu.-N. SE, SW	-------	☊ a. ⊤ ☾² p.
20	57.50	30.4	40.4	24.4	64.7	SE, N	1	3.5	Ci.	Cu.	-------	☊ a. ☾ p.
21	57.98	30	39.6	24.5	68.2	E quad.	1.3	4.2	Ci.	Cu.-N. NE	-------	☊ a. ⊤ ☾ ☾ p.
22	58.47	30.2	40.2	24	63.5	SE, NE	1.3	7.3	Ci.	Cu.-N. S	-------	☈ ☾ ☾² p.
23	58.26	30.4	39.9	24.4	67	Variable	1.3	4.8	Ci.	Cu. SE	-------	⊤ ☾ ☈ ☾ ☾² p.
24	57.82	29.7	39.8	24	68	SE quad.	1.3	4.5	Ci.	Cu. S	-------	☊ a. ☾ p.
25	56.98	31	40.4	25.5	66.7	SE	1.2	7.7	A.-Cu., Ci.-S.	Cu.-N. S, SW	-------	d° a. ☈ ☾ p.
26	57.03	28.9	39.1	24.2	75.3	SE	.8	7	Ci.	Cu.-N. SW	49.5	☾ a. ● ☈ ☾ ☾² p.
27	57.65	28.4	38.4	23.8	80.8	Variable	.7	8	Variable	Cu.-N. N, SW	3.8	● ☈ ☾ ☾² ☋² p.
28	58.80	28.4	37	23.5	78.2	S, NW	.3	7.2	Variable	Cu.-N. S	-------	☾ d° a. ⊤ ☾ ☾² p.
29	58.81	28.6	39.5	24	76.7	S, NW	1	5	Ci., Ci.-S.	Cu., Cu.-N. S	1	⊤ d² ☈ ☾ ☋ p.
30	58.72	28.3	39.4	22	75	W quad.	1	5.7	Ci.	Cu., Cu.-N. S, NE	8.4	● ☈ ☾² p.
31	58.97	26.6	36	22	82	S quad.	1.7	9	Ci.-S.	Cu.-N. SW	61.2	● ☈ ☾ a. ● ☈ ☾² p.
Mean	758.47	29.4	39.1	24.1	71.4		1	6			-------	
Total	-------	-------	-------	-------	-------		-------	-------			149.6	

Meteorological data for first and second class stations—Continued.

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.65	27.5	34	24.6	76.5	N, SW	1.7	5.7	A.-Cu. SW	Cu.		⊤ ●° a. ⌐◹ d p.
2	58.64	27.6	33	23.4	75.3	S, NE	1.7	3.8	A.-Cu. SW	Cu. SE		
3	60.10	28.4	34.5	22.7	71	NE, S	1.7	2.2	A.-Cu.	Cu.	1.8	◟ p.
4	60.40	28.2	32.9	25	72.2	NE	1	2.8	Ci.	Cu. NE		●° a.
5	58.74	27.4	32.4	24	76.3	NE	1.7	3		Cu. SE	.8	⌐◹ ●° d ◟ p.
6	58.17	27.4	33.1	23.8	75.8	NE	1.3	2.2	Ci., Ci.-S.	Cu. S	4.1	⌐◹ ● p.
7	58.54	27.9	32.6	23.5	74.8	NE	1.3	3.5	Ci.-S., A.-Cu.	Cu.		⊤° p.
8	58.66	27.2	33.1	24.3	77.2	Variable	1.8	7.5	A.-Cu. W	Cu., Cu.-N.	1	↙° ⌐◹ ●° ◟ p.
9	58.97	27.1	32.2	24	76.5	NNW, SSW	1.3	7.5	A.-Cu. W	Variable S		
10	59.76	27.4	32.5	22.5	75.8	NE, SSE	2	4	A.-Cu.	Cu.		
11	59.66	28.3	34	23.2	71.3	SSE, NE	1.8	1.2	Ci.-S.	Cu.		
12	58.86	28.3	32.9	24.4	72.2	NE	1.5	2.8		Cu.		⌒◟ p.
13	58.20	28.2	33.2	24.5	72.2	NE, N	1.5	5.8	A.-Cu. W	S.-Cu.		⌐◹° ◟ p.
14	58.30	28.8	33.3	25.3	70.8	Variable	1.2	5.8	A.-Cu. W, WSW	Cu.		
15	57.76	28.6	33.9	25.3	71.5	Variable	1.2	6.8	A.-Cu. SW	Cu. SW		◟ p.
16	57.25	28.8	33.4	24.8	71	E quad.	1.5	8	Ci.-S. N	Cu. SW		
17	57.81	28.4	32.8	25	71.8	NE	1	6.2	A.-Cu. W	Cu. SW		
18	59.01	28.5	32.3	25.3	72.8	NE, N	1.5	4.3	A.-Cu. E	Cu. NE		◟ p.
19	58.72	28.6	32.4	24.6	72.8	NE quad.	1.3	1		Cu. SE		
20	57.60	28.2	33.5	24.5	77.2	NE	1.3	2.5	Ci.	Cu.		Ω° a.
21	57.98	28.2	31.9	24.7	77.8	N	1.5	4	Ci.	Cu. SW		
22	58.73	28.1	32	24.2	76.2	N	1.3	4.2	Ci.	Cu.		
23	58.47	28.2	32.8	23.7	75.5	NE	1.2	1.8	Ci.	Cu.		Ω° a. ⌐◹° p.
24	57.85	28.3	33.3	24.3	77.7	NE	1.2	4.7	Ci.-S.	Cu. S		⊤° ◁D2 p.
25	56.91	28.7	33.2	24.6	78.8	NE	1.3	5.3	A.-Cu. NNW	Cu. S		
26	56.89	29.1	33.8	25.7	77.8	NE quad.	1.3	4.8	Ci.-S.	Cu. S, NNE		◟ p.
27	57.52	28.6	33.5	25	78	NNE	1.2	4.2	Variable	N.-cf. SW	.5	p° p.
28	58.55	27	30.5	24.3	84.8	S, SE	1	9	Ci.-S.	S.-Cu. S		⌐◹ ●° a. ◟ p.
29	58.56	27.6	36	24	84.5	S	1.3	3.7	Ci.-S.	Cu., N. S, NW	8.4	⊤ ⌐◹ ● ⌒ p.
30	58.18	27.7	35.2	23.3	78.3	S	2	3.8	Ci.-S.	S.-Cu.	19.3	⊤ ⌐◹ ● p.
31	58.20	26.6	33.2	22.5	80.7	S	1.5	9.5	A.-Cu. SW	S.-Cu. SW	10.7	⊤ ⌐◹ ● p.
Mean	758.41	28	33.1	24.2	75.6		1.4	4.6				
Total											46.6	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	22.6	97	78	2	4	------	
2	------	23.1	------	75	6	10	------	
3	------	23.9	94	85	10	10	0.5	☊° a. ●° p.
4	------	23.1	98	79	10	7	4.1	☊° ●° a.
5	------	22.6	------	81	10	10	------	☊ a.
6	------	21.6	96	84	1	5	------	☊ a.
7	------	21.8	98	59	1	8	------	☊ a.
8	------	20.8	------	65	6	7	------	☊ a.
9	------	21.6	------	62	0	7	------	☊ a.
10	------	22.4	98	71	0	4	------	☊ a.
11	------	22.5	96	77	10	10	4.1	☊ a. ●° p.
12	------	22.1	------	92	0	10	15.2	☊ a. ● p.
13	------	22.1	97	86	1	8	.8	☊ ●° a. ⊤ p.
14	------	22.1	98	77	4	8	------	☊ a.
15	------	22.6	------	75	7	10	------	☊ a. p° ≤ p.
16	------	22.1	96	77	9	10	------	☊ a. p° a. p.
17	------	22.1	96	64	10	5	------	⊤ a.
18	------	23.3	96	68	2	6	------	☊ a.
19	------	23.6	------	72	10	5	------	⊤ p° a.
20	------	23.3	94	70	4	4	8.9	☊ ⊤ a.
21	------	23.1	98	71	10	10	------	● ⌐≤ a.
22	------	22.6	97	77	10	5	------	☊ a. ≤ p.
23	------	23.1	96	74	10	4	------	☊ a. ⊤ a. p.
24	------	23.7	------	79	10	10	1	☊° p a. p° ≤ p.
25	------	23.4	98	75	8	5	------	☊ a.
26	------	22.1	96	74	1	3	------	☊ a.
27	------	22.3	95	81	1	9	------	☊ a.
28	------	22.1	97	68	2	9	.8	☊ a.
29	------	23.1	96	81	2	10	5.3	☊ a. d ≤ p.
30	------	23.1	97	73	10	7	1.3	●° d p a.
31	------	22.4	98	96	1	10	20.1	☊ ● ⊤ a. d p.
Mean	------	22.6	96.6	75.7	5.4	7.4	------	
Total	------	------	------	------	------	------	62.1	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	24.9	86	85	6	7	------	
2	30.1	23	83	75	10	10	------	
3	30	24	80	79	7	4	------	
4	29.7	25.2	85	83	10	9	0.5	●° a.
5	29.5	22.5	88	82	4	10	------	
6	29.5	22	83	75	2	7	------	
7	30.1	22	84	72	2	1	------	
8	30.2	22	83	71	2	3	------	
9	32.3	21.8	80	68	2	1	------	
10	31.6	22.5	84	66	2	2	------	
11	31.3	23.5	85	70	10	10	------	
12	32.5	23.8	86	74	3	5	------	
13	31.1	24	86	80	2	3	------	≤ p.
14	32.5	23.9	84	65	5	9	------	⊤ p.
15	32.1	24.6	83	66	6	9	------	
16	32.5	24.5	86	72	7	2	------	
17	32.5	24	87	81	10	5	------	
18	32.1	23.8	88	69	3	2	------	
19	31.6	25	88	73	6	3	------	
20	30	24.9	90	81	6	2	53.1	⊤ a. ⌐≤ p.
21	29.8	21.6	89	76	9	9	------	⌐≤² ●² a. ≤ p.
22	31.2	24.5	88	75	5	7	------	≤ p.
23	30.3	24	87	71	10	3	------	⊤ a. d p.
24	30.7	24.1	85	74	10	10	------	d ⊤ a.
25	30.2	23.8	87	80	8	4	------	d a.
26	30	23.4	90	79	5	8	------	
27	29.8	23.3	89	83	8	4	------	
28	30.3	23.3	87	78	6	8	------	
29	31.7	23.9	86	65	6	9	------	
30	31.1	24.1	87	73	9	6	6.9	● a.
31	30.5	23.9	87	82	6	10	------	
Mean	30.9	23.6	85.8	74.9	6	5.9	------	
Total	------	------	------	------	------	------	60.5	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.7	22.9	91	62	6	5	------	
2	32.7	24	96	65	6	5	------	
3	34.2	22	96	62	6	6	------	
4	33.2	22.8	93	58	5	7	------	
5	32.4	23	92	72	5	5	------	
6	31.8	22.5	96	70	6	5	38.9	●² p.
7	30.7	22	95	68	8	5	8.9	● a. p.
8	30.7	22.9	96	71	10	6	22.6	● a. p.
9	30.5	22.8	97	73	6	5	5.3	● p.
10	31.2	21.9	96	69	8	5	7.9	● p.
11	31.7	22.7	96	60	10	5	------	
12	32	24	96	60	6	7	------	
13	31.7	24.3	93	71	5	5	4.8	● p.
14	31.7	23	96	66	5	6	------	
15	32.2	22.8	96	75	5	6	------	
16	32	23.8	96	71	6	5	------	
17	32.7	22.8	94	69	5	5	------	d p.
18	33.8	23.3	97	68	5	7	------	
19	35.2	23.9	96	62	5	7	------	
20	34.7	22.9	95	80	5	9	------	d p.
21	34.2	23	96	75	7	7	------	
22	33.6	22.3	96	61	6	5	------	
23	31.5	24.5	96	69	8	7	50.8	●² ⊤ p.
24	32	22.2	97	79	5	9	------	
25	31.6	22.3	97	61	5	7	2	●° p.
26	31.7	23.2	96	74	5	8	------	⊤ p.
27	32.9	23.5	96	68	5	5	15.7	☋ ● ⌐≤ p.
28	32.6	23.5	96	65	6	6	------	
29	32	24	95	70	5	6	------	
30	31.7	24.1	96	66	8	6	------	◠ d a.
31	32.2	22.9	96	67	5	5	------	
Mean	32.4	23.1	95.5	68	6.1	6	------	
Total	------	------	------	------	------	------	156.9	

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.2	------	88	66	6	7	------	
2	34	------	93	62	8	5	30.5	●² ⌐≤ p.
3	33	------	93	66	9	8	1	
4	34	------	93	66	9	6	6.1	●° a.
5	33	------	93	60	8	6	------	● a.
6	32.3	------	91	64	8	5	------	
7	32.9	------	91	65	9	6	------	
8	32.5	------	91	62	7	5	13.2	☊° a.
9	33.4	------	92	63	8	6	------	● ⊕ ○ a.
10	31.9	------	89	60	10	6	------	d° a. ≤ p.
11	34	------	89	63	8	6	------	
12	33.8	24.7	88	72	10	8	.5	d° a.
13	33.5	24.8	91	63	5	4	77.5	●² p.
14	33	23	93	66	7	6	5.3	●° p.
15	32.8	24.9	92	72	8	5	12.7	
16	32	24.7	96	65	9	6	------	● a. ⌐≤ p.
17	31.8	24.6	92	63	9	5	2.5	●° p.
18	33	23.2	95	73	8	7	1.3	⌐≤ p.
19	34	24.8	93	63	5	4	7.6	●° a. ⌐≤ ● p.
20	33.1	25	94	69	7	7	56.1	⌐≤² ●² p.
21	33	24.3	95	68	8	8	------	≤ p.
22	32.5	24.1	92	68	6	8	29.2	⌐≤² ●² p.
23	30	23	93	74	9	8	1.3	⌐≤² ●° p.
24	32	23.8	92	69	5	8	12.7	⌐≤² ● p.
25	31	22	96	70	9	7	8.9	⌐≤² ● p.
26	31	24.3	94	67	8	6	.8	●° a.
27	32.3	23.7	94	64	8	7	------	d a. ≤ ☋ ☋ p.
28	32.2	23.8	91	62	9	5	16	● a.
29	33	24.3	95	68	9	6	1.3	● a. ☋ ☋ p.
30	33	24.7	93	68	9	9	2.5	●° a. p. ◠ ⊤ p.
31	33.5	23.2	96	64	8	6	------	≡° a. ⊤ ☋ ☋ p.
Mean	32.7	24	92.5	66	7.9	6.3	------	
Total	------	------	------	------	------	------	287	

Meteorological data for third and fourth class stations—Continued.

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.1	24	82	57	3	4	------	☊² a. ☋ p.
2	33.5	25.2	84	54	4	5	2.8	☊° a. ☈ ● ☾° ◠ p.
3	33.9	24.5	93	54	8	4	------	☊² a. ○² p.
4	34.5	24.5	87	55	4	3	------	☊ ○ a. ☋ p.
5	33.9	22.4	82	64	5	10	------	☊ a. ☾ p.
6	34.2	22.5	85	63	3	3	------	☊° a. ☾ p.
7	32.1	23.4	79	60	6	4	------	☊° a. ◠° ☾ p.
8	33.1	22	82	61	4	5	------	☊ a. ☾² p.
9	33.4	22	84	60	3	2	------	☊ a.
10	33.5	22.1	73	55	1	2	------	☊ a. ☾ p.
11	33	22.6	84	54	1	2	------	☊ a. ☾ p.
12	33.4	24	85	57	4	2	------	☊° a. ☾ p.
13	34.1	24.8	83	57	2	4	------	☊ a.
14	35.1	25.1	83	60	3	2	------	☊ a. ☾ p.
15	33.2	24	80	63	1	3	------	☊ a. ☈ p.
16	34	24.5	83	55	1	2	------	☊° ○ a. ☾ p.
17	33.9	25	84	61	3	8	.3	☊ a. d ☈ p.
18	33.4	24.2	86	58	3	4	------	☊ a. ☾ p.
19	34	24.2	88	52	3	4	------	☊ a. ☈ p.
20	34.1	24.2	83	57	2	4	------	☊ a.
21	34.1	25.2	76	66	3	4	------	☊ a.
22	35	24.2	82	59	3	2	------	☊ a.
23	33.9	23.8	85	62	5	3	1	☊ a. d° ◠ p.
24	31.2	24	91	67	3	10	------	☊² a. d° p.
25	33.8	23.8	83	56	3	4	------	☊ a. ⊤ p.
26	34.6	24.1	83	54	2	4	------	
27	34.1	24.5	79	58	2	4	------	☊ a. ☈ d° p.
28	34.2	25.7	82	61	2	3	------	☊ a. ☋ ☾ p.
29	34.4	25.6	80	62	2	3	------	☊ a.
30	34.1	25.3	85	66	3	10	.8	d p.
31	33.4	23	91	55	2	3	12.4	☊ a. ☈ ● ☾ p.
Mean	33.7	24	83.5	58.8	3	4.1	------	
Total	------	------	------	------	------	------	17.3	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.5	23.4	91	62	1	6	------	☊ a. ◠ ☿ p.
2	31.6	23.6	93	91	5	10	17.5	●° a. p. ● ⊤ p.
3	33.1	23.3	97	71	7	6	------	☊ a. d° p.
4	32.3	23.3	95	59	8	4	------	☊ ⊕ a.
5	32.2	21.9	95	65	8	7	------	☊ a. ⊕ p.
6	33.6	23.6	95	60	9	8	------	☊ a. ⊕° ☾ p.
7	34.5	24	91	56	7	5	------	☊ ⊕ a.
8	32.7	22.9	92	55	1	2	------	☊ a.
9	34.5	23.5	87	52	5	2	------	☊ a.
10	35.3	21.7	91	54	0	2	------	☊ a.
11	36.4	23.6	89	53	1	2	------	☊ a.
12	36.3	24.1	86	45	0	2	------	☊ a.
13	35.2	24.4	86	59	0	3	------	☊ a. ☾ p.
14	36.5	24.7	85	56	0	3	------	☊ a. ⊤ p.
15	37.1	24.9	89	56	1	4	------	☊ a. ⊤ ☾ p.
16	37.1	25	88	48	1	2	------	☊° a.
17	35.6	25.2	86	73	1	9	------	☊° a. ⊤ ●° p.
18	36.3	24.6	92	69?	6	5	1	☊ a. ●° p.
19	34.6	24.6	91	49	4	3	------	☊ a. ●° ☿ p.
20	35.8	24.9	88	64	5	6	------	☊ a. ● ⊤ p.
21	36.6	24.5	90	52	6	7	------	☊ a. ☿ p.
22	34.8	24.3	88	55	4	3	------	☊ a. ⊤ ☾ ☋ ☿ p.
23	34.1	25.1	92	58	7	5	------	☊ a. ☾² p.
24	27.5	23.6	91	90	7	10	1	☊ a. ●° a. p. ☋ p.
25	32.7	23.4	95	63	10	9	------	☊² ○ a. ☾ ☋ p.
26	34.5	24.4	91	49	9	4	------	☊ a. ☾ ☋ p.
27	33.8	23.5	91	63	6	8	------	☊ a. ⊤ p.
28	34.6	24.1	92	54	1	4	------	☊ a. ⊤² ◠ p.
29	37.7	24.9	89	53	0	7	------	☊ a. ⊤² ●° p° p.
30	36.3	25.3	86	60	1	7	------	☊ a. ●° ⊤ ☾ p.
31	36	24.1	90	82	1	8	1	☊ ⊤ a. ⊤² ●° ☾ p.
Mean	34.6	24	90.4	60.5	3.9	5.3	------	
Total	------	------	------	------	------	------	20.5	

DUMAGUETE.

[ϕ=9° 18′ N; λ=123° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	24.2	83	79	10	10	------	☊° a.
2	31	24.2	83	78	8	10	------	☊° a.
3	31.2	25.9	84	70	10	5	------	d° a.
4	31.5	24	78	76	10	10	------	
5	29.6	23.3	77	67	10	10	------	
6	31	23.4	80	70	7	7	------	☾° p.
7	31.6	23.2	80	74	10	9	------	
8	31.6	23.6	69	69	7	8	------	☾ p.
9	30.3	24	83	73	10	4	------	
10	31.3	24.8	76	73	4	4	------	
11	31.2	24.6	76	68	3	2	------	
12	31.6	24.6	75	69	5	10	------	
13	32	23.1	75	76	6	5	------	
14	32.1	25.3	74	69	6	7	------	
15	31.6	25	76	75	10	7	------	☾ p.
16	32.4	24.7	74	75	10	10	------	☾² p.
17	31.7	24.5	75	77	7	10	------	☾ d p.
18	31.6	26.5	81	67	10	10	------	☾ p.
19	31.5	26.6	78	70	10	10	------	
20	30.8	25.3	71	69	10	5	------	☾° p.
21	31.5	24.8	74	77	10	10	------	☾ p.
22	31.4	25	76	71	10	7	------	☾ p.
23	32.6	24.5	79	68	10	10	------	☾ ○ ☾ p.
24	31.3	25.2	73	73	10	10	------	☾² a. ○ ☋² ☾ p.
25	32.4	24.6	80	68	10	10	------	○° a. ☾ p.
26	32.6	24.9	73	67	10	8	------	☾ a. p ⊤ p.
27	33.2	25.2	76	67	9	8	------	☾ ⊤° a. ⊤ ☾° p.
28	32.9	25	75	72	8	9	------	○° a. p. ☾° p.
29	31.9	25.8	79	73	8	3	------	☾° p.
30	32.5	26.3	85	74	9	6	------	☈ d° ○ a. ☾ p.
31	33	24.2	76	69	7	9	11.7	⊤ a. ○ a. p. ⊤° ☾° p.
Mean	31.6	24.7	77.2	71.7	8.5	7.8	------	
Total	------	------	------	------	------	------	11.7	

YAP (WESTERN CAROLINES).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.9	24.7	77	58	8	9	------	☿ p.
2	30.5	23	87	79	7	10	8.4	p a. ● p.
3	30.9	-----	80	71	10	5	------	☋ p.
4	30.4	24.6	76	74	10	9	------	
5	31.2	25.3	82	68	10	10	------	☾° p.
6	30.6	25.3	81	64	10	8	.3	
7	31.4	23	83	64	4	9	1.5	●° a.
8	32.4	23.5	83	66	10	10	------	●° a.
9	28.2	24	80	90	10	10	10.7	● a. p.
10	32.5	24.4	83	70	7	8	.8	
11	32.9	24	85	67	10	6	1	●° a.
12	31.8	23.9	89	50	9	9	4.6	●° a.
13	31.4	23.7	93	75	10	10	5.6	● a.
14	32.9	23.9	87	69	2	7	------	☊ a. p° p.
15	32.4	25.4	87	70	3	7	------	☊ a.
16	31.6	23.9?	85	69	2	5	3.8	p° p.
17	32	23.9	89	71	3	7	.8	●° p° a.
18	30.4	25.1	94	79	10	9	.8	●° a.
19	31.4	25.5	83	67	9	10	------	●° a.
20	32.9	26.1	83	68	10	8	------	p° p.
21	33	26.5	77	64	10	10	------	d° ☋ p.
22	32.6	24.7	80	61	10	7	.5	
23	31	23.9	96	99	10	10	151.1	●° ◠ a. ●² p.
24	30.9	22.2	86	75	10	10	.5	○ d° a. v ☋ p.
25	32.6	-----	87	78	4	10	1.3	☊ a. d ☿ p.
26	32.6	24.9	89	70	9	8	29.7	p° a. ●² ◠ p.
27	32	-----	88	71	9	4	------	☿ p.
28	32.2	24.5	91	94	5	10	7.3	☊ a. ●° d ☿ p.
29	31.9	23	95	80	8	7	------	●° a.
30	32.6	25.4	84	68	4	8	.3	☊ a. d p.
31	32.9	24.3	89	70	4	6	------	☊ a.
Mean	31.7	24.4	85.5	71.6	7.6	8.3	------	
Total	------	------	------	------	------	------	229	

Meteorological data for third and fourth class stations—Continued.

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	22.8	96	72	2	6	------	♃ a. ☋° p.
2	30.8	24	93	79	5	8	0.7	☌° a. p. ●° p p.
3	31.1	25.2	89	73	3	5	------	☌° a. ☽° p.
4	30.1	22.7	97	77	9	9	------	♃ ☽° a. ☽ p.
5	31.4	21.8	93	72	5	7	------	♃ a.
6	31.8	21.9	94	72	6	7	------	♃° a. ☽° ☇° p.
7	30.8	23.4	92	76	9	7	------	☽ a. p. ☍° p.
8	31.4	22.5	96	69	7	3	------	♃ a.
9	31.5	23.1	92	69	4	1	------	♃° a.
10	31.6	------	92	72	1	4	------	♃ a.
11	31.9	23	94	65	3	2	------	♃ a.
12	31.9	22.6	91	68	1	1	------	♃° a. ☍° p.
13	32.5	23.2	93	72	2	2	------	♃ a.
14	32.4	23.3	92	65	1	2	------	♃° a.
15	32.8	23.4	91	71	5	4	------	♃ a.
16	------	24.2	93	71	5	5	------	♃° a.
17	33.1	25	92	76	4	5	------	☽ ☇° p.
18	32.6	24.5	94	75	9	5	.8	p° ☾ a.
19	32.5	25.5	91	69	5	2	.8	d ●° a.
20	32.5	25	93	71	1	0	------	
21	32.6	23.2	94	71	4	2	------	♃ a.
22	32.6	24	94	68	0	1	------	♃° a.
23	31.6	25.5	92	77	1	3	------	
24	32	24	94	75	1	10	------	♃ d° a.
25	32	22.8	94	68	1	4	------	♃ a. ☽ a. p. ☇° p.
26	32.3	24	95	61	1	4	15.5	♃ a. ☋ p.
27	31.6	24	95	65	4	3	------	● a. ☇° ☇° p.
28	32.7	24.5	92	63	0	1	------	♃° a. ☇° p.
29	32.9	24	92	68	0	0	------	♃ a. ☇° p.
30	33.1	24.5	93	75	0	1	------	♃ ☈ a.
31	33.4	24	92	72	0	1	------	♃ a.
Mean	32	23.7	93.1	70.9	3.2	3.7	------	
Total	------	------	------	------	------	------	17.8	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	24.4	92	84	10	10	------	
2	32.5	26.4	84	84	10	10	------	
3	33	25.8	89	72	10	8	------	
4	33	26	89	77	10	10	------	☇² p.
5	33.5	23.2	88	83	10	10	------	
6	32	23.1	89	83	10	8	------	
7	32	23	93	85	10	10	------	
8	31.8	23.2	91	83	10	6	------	
9	31.6	23.1	88	86	10	10	------	
10	30.5	22.6	95	83	10	10	------	
11	30.9	22.8	93	86	8	7	------	
12	31.5	22.9	90	83	10	6	------	
13	31.5	24	88	82?	10	8	------	
14	32.1	24.1	93	79	10	8	------	
15	32	23.8	90	80	10	8	------	
16	35	24	90	74	10	4	------	
17	32.8	24.1	84	81	10	10	------	
18	35	24.2	90	79?	10	8	------	
19	35.2	24.2	92	58	10	10	------	
20	34	24.4	91	61	10	7	------	
21	33	24.2	85	81	10	10	------	☇ p.
22	35.2	24	90	80	10	10	------	☇ p.
23	35	26	90	75?	10	10	------	☇² ☽ ☋ p.
24	34.6	25.2	90	77	10	10	------	☇² ☽ p.
25	35	23.8	89	74	10	10	------	☇² ☽² p.
26	35	23.8	89	77	10	10	------	┼² ☇ ☋ p.
27	34.4	23.9	86	79	10	10	------	d ┼ a. ☋² p.
28	34.4	25.2	90	81	10	10	------	☇ ☽² ☋ p.
29	34	24.7	87	77?	10	5	------	☇ ☋ ☽ p.
30	34	24.6	89	71	10	8	------	☇ ☋ ☽² p.
31	32	25	92	86	10	10	------	┼² a. p. ☇ ☽ ☋² p.
Mean	33.2	24.2	89.5	78.7	9.9	8.7	------	
Total	------	------	------	------	------	------	------	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.5	23	75	57	2	6	------	
2	35.3	23.5	78	55	1	8	------	♃° a.
3	35.2	26.1	76	59	10	10	------	☌° a. ⊕ p.
4	35.8	24.4	76	53	9	7	------	
5	35.8	24.5	73	47	10	8	------	
6	34.8	24	75	56	10	4	------	♃° a.
7	34.9	23.7	76	58	6	3	------	♃° a.
8	34.9	24.5	76	56	1	2	------	
9	35.4	23.9	75	56	1	9	1	┼ ●° p.
10	35.4	23.1	86	55	8	6	------	☌² p.
11	35.3	25.1	87	58	10	10	.8	●° p.
12	34.8	24.5	85	59	3	4	------	
13	35.3	25.1	80	56	4	1	------	
14	36.1	25.5	84	60	1	5	------	☇ p.
15	36.3	25.5	82	58	9	9	------	
16	36.1	26	83	65	6	9	------	┼ ☇ p.
17	35.9	25.1	81	59	6	8	------	☌ ☈ ☾ p.
18	------	24.3	84	56	10	10	------	☌ ┼ ☇ p.
19	36.3	25.2	85	55	2	3	------	
20	36.3	24.5	80	56	5	2	------	┼ p.
21	35.3	25.5	76	61	5	8	------	┼ ☌² ☋ p.
22	35.3	25.1	82	61	9	9	------	┼ ☇ p.
23	35.3	25.6	82	58	10	9	------	┼ p.
24	36.3	25.9	83	64	7	9	.8	┼ ☌ ●° ☈ p.
25	34.9	24.5	87	67	10	10	------	┼ ☋ ☇ p.
26	35.3	24.6	83	71	9	10	4.1	☌ ☈ ● ☾ p.
27	35.3	24.6	92	63	6	10	------	┼ ☋ ☇ p.
28	34.8	25.9	87	59	10	10	------	☇ a. ☈ ☌ p.
29	35.8	25.5	84	56	3	10	------	┼ ☌° ☇ p.
30	33.8	35.6	81?	66	9	10	------	┼ a. ☈ ☌ p.
31	30.8	24.5	83	90	10	10	20.8	●² ☈ ☌ a.
Mean	35.2	24.8	81.2	59.7	6.5	7.4	------	
Total	------	------	------	------	------	------	27.5	

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.9	25	92	66	7	8	------	♃ a.
2	33.2	24.1	91	58	8	8	------	♃ a.
3	32.7	27.1	84	68	9	8	------	♃ a. p° ☇ p.
4	33.7	27.1	83	54	8	7	------	♃ a.
5	33.2	25.6	76	60	9	8	------	♃ a.
6	33.9	23.4	89	60	9	6	------	♃² a.
7	35	24.1	88	56	9	6	------	♃ a. ☇ p.
8	34.5	25	79	53	9	7	------	d° a.
9	34.4	24.6	89	54	8	5	4.3	♃ a. p p.
10	33.2	24.6	93	70	8	8	------	♃ a. ☇ p.
11	33.4	24.6	90	66	8	9	------	♃ a. p° p.
12	34.6	25.8	89	62	9	8	------	♃ a.
13	34.2	25.3	88	61	8	8	------	♃ a.
14	34.7	25.9	92	59	9	8	------	♃ a.
15	34.4	24.9	92	64	9	9	------	♃ a.
16	34.3	25.4	89	60	9	7	------	♃ a.
17	33.6	25.6	90	63	10	10	39.1	p ┼° a. ●² ☈ p.
18	33.6	23.6	98	67	10	8	------	♃ a.
19	33.6	27.6	82	65	9	7	------	♃ a.
20	34.1	27.5	84	64	8	5	------	☇ ☋ p.
21	35	27.1	94	68	9	9	------	☾ ┼ a. ☇ p.
22	34.3	25.6	94	65	9	8	------	♃ a. ☇ ☽° p.
23	32.8	26.3	90	69	9	9	2.8	┼ p a. p° ☇° p.
24	34.3	26.1	93	64	9	8	------	♃ a. ☇² ☾ p.
25	34.4	27	87	68	9	9	.8	●° a. d° ☇ p.
26	32.2?	25.9	90	65	9	7	------	♃° a. ┼ a. p. ☇ p.
27	34.5	27	86	65	9	8	------	d a. ☇ ☋ p.
28	32.2	27.1	90	78	10	9	37.6	┼ p. ●² a.
29	33.2	25.5	94	70	9	8	2.1	┼° a. p° a. p. ☇ ☾ ●°
30	32.5	25.1	88	71	10	9	------	☈° a. ☇ p.
31	29.4	25.4	95	82	9	10	19.8	♃² ☈ ● a. d p.
Mean	33.6	25.6	89	64.4	8.8	7.9	------	
Total	------	------	------	------	------	------	106.5	

Meteorological data for third and fourth class stations—Continued.

GUIUAN.

[φ=11° 02′ N; λ=125° 43′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.2	21.7?	78	72	5	5	------	
2	30.9	22.3	96	76	2	7	4.1	☊° ●° a.
3	30.8	25.9	82	68	8	1	------	☊ p.
4	31.1	21.8	97	70	5	9	------	○² a. p. ☊ p.
5	31.7	21	99	62	5	3	1	☊² ●° a.
6	32.5	21.4	99	76	8	4	.3	p° a.
7	31.1	23.5	96	73	9	8	------	
8	32.2	20.8	99	65	1	1	------	☊² a.
9	31.8	20.4	98	62	1	1	2.8	
10	30.8	21.8	99	67	7	1	------	● ⌒² a.
11	31.7	24.3	85	70	8	4	1.3	☊² p.
12	32.1	22.5	98	66	7	1	------	p ⌒² a.
13	32.8	21.2	99	69	2	1	------	
14	33	23.8	87	68	1	1	------	☊° p.
15	32.6	22.8	98	72	7	2	------	☊° d a. ≲ p.
16	32.7	23.4	94	68	7	1	------	☊° p.
17	32.9	23.2	89	66	2	3	------	☊ a.
18	31.9	23.8	98	78	6	5	------	☊ ⌒° a. ≲² p.
19	32.2	22.6	97	65	3	2	------	
20	32.3	22.5	94	63	2	1	.3	☊² a.
21	32.4	23.3	97	71	9	8	3.6	p ⌒² ●° a. ☋ p.
22	32.9	22.4	98	67	2	2	------	☊² a. ≲° p.
23	33.5	21.9	99	68?	7	6	1	☊² a. ☋ ≲ p.
24	32.4	22.4	98	62	2	8	2	●° p ⊤ a. ≲² ⌣° p.
25	32.4	21.2	97	63	8	8	------	☊² a.
26	33.2	21.1	97	66	1	6	------	
27	33.3	23.5	96	66	2	2	------	☊° a.
28	33.6	22.7	97	59	2	1	.3	☊² a.
29	33.5	24.2	97	59	4	1	------	●° a. ≲° p.
30	33.3	23.6	97	70?	4	2	------	
31	33.2	24.7	86	76	2	4	------	p a. ≲ p.
Mean	32.3	22.6	94.9	67.8	4.5	3.5	------	
Total	------	------	------	------	------	------	16.7	

BORONGAN.

[φ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	21.8	96	76	6	7	1.5	☊ ≡° ●° a. d ⌣° p.
2	30.7	22	96	77	7	7	1.8	☊ ☊ ≡° a. d ●° p.
3	30.5	24.7	78	64	8	5	------	☋ p.
4	30.5	21.4	97	62	4	4	------	☊ ≡ ○ a.
5	30.7	21.7	96	66	3	4	2	☊ ≡° a. ●° p.
6	31	22.4	97	69	6	5	.8	≡ a.
7	30.6	22.6	97	69	6	7	------	●° ≡ a. d° p.
8	30.6	22	95	62	5	4	------	☊ ≡° ⊕ a.
9	30.7	21.6	97	64	2	3	1	☊ ≡ a. ●° p.
10	30.7	22.4	96	67	7	5	2.3	≡° ⌒ a. ●° a. p.
11	30.5	23.4	96	66	6	6	4.6	●° ≡° a.
12	30.7	22.8	95	69	7	5	1.8	●° ≡° a.
13	31.1	22	96	67	2	3	------	☊ ≡° a.
14	31.3	22.8	96	66	2	3	------	☊ ≡° a.
15	31.4	23.2	96	67	5	5	------	☊ ≡° a.
16	31.2	23.3	97	74	6	5	4.4	☊ ≡ ●° a. ● d p.
17	31.7	23.9	97	67	4	4	2.3	☊ ≡ a. ≲ p.
18	31.5	23.6	96	67	5	5	8.9	●° ≡° a. ≲ p.
19	31.3	23.7	97	69	5	5	------	● a.
20	31.7	23.1	95	69	4	6	------	☊ ≡° a. d° p.
21	31.4	24.2	95	69	7	7	------	☊ ☊ ≡° ⌒ a. ☋ ≲ p.
22	31.4	22.7	97	67	4	4	------	☊° ≡ a. ≲ ☋ p.
23	32	22.5	97	67	4	4	------	☊ ≡ a. ⌣ p.
24	31.6	23.4	96	65	3	4	------	☊° ≡° a. ○ ≲° ⌣° p.
25	31.5	22.5	96	62	4	5	------	☊ ☊ ≡° a. ≲ p.
26	32	22.3	96	61	2	4	------	☊ ☊ ≡° a.
27	32.5	23.6	96	65	5	4	------	≲ ☊ a. ⊤ ⌣ ≲ p.
28	31.9	23.2	95	61	3	3	1.5	☊° ≡° a. ≲ ⌣ p.
29	32.2	24	96	66	5	4	------	●° ≡° a.
30	32.3	23.7	96	67	4	4	------	☊ ≡° a. ⌣ p.
31	32.6	23.7	97	69	3	5	------	☊ ≡ a. ⊤ ≲ ⌣ p.
Mean	31.3	22.9	95.6	67	4.6	4.7	------	
Total	------	------	------	------	------	------	32.9	

MASBATE.

[φ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.5	24.6	96	-----	6	4	------	
2	32.5	25	95	-----	6	6	------	
3	32.6	26.2	92	-----	8	8	------	
4	33.2	24.6	95	-----	6	6	------	
5	33.5	24.5	92	-----	6	8	------	
6	33.6	24	97	-----	9	8	------	
7	34.2	24.5	96	-----	8	6	------	
8	33.6	25	96	-----	8	8	------	
9	33.5	25	93	-----	7	4	------	
10	33.6	24.5	93	-----	9	7	------	
11	34	25.2	94	-----	8	4	------	
12	34.2	25.6	92	-----	8	4	------	
13	34.2	25.2	-----	-----	8	6	------	
14	33.5	25	99	-----	9	6	------	
15	34	26.2	96	-----	9	8	------	
16	33	25.6	98	-----	7	8	------	
17	35.5	24.6	99	-----	8	7	------	
18	34.2	26.6	97	-----	8	4	------	
19	34.5	26.5	97	-----	6	6	------	
20	35.2	26.5	94	-----	4	4	------	
21	33	25.6	91?	-----	8	8	------	
22	34.6	24.5	98	-----	9	9	------	
23	33.6	24.6	99	-----	8	8	------	
24	35.5	25.5	98	-----	8	8	------	
25	35.2	25.6	97	-----	9	8	------	
26	35	25.5	94?	-----	8	6	------	
27	34	26	98	-----	7	8	1	
28	33.2	24.2	96	-----	8	7	------	
29	35.2	27	95	-----	8	4	------	
30	34.2	27.5	92	-----	6	6	------	
31	35.5	26	92?	-----	7	4	------	
Mean	34	25.4	95.4	-----	7.5	6.4	------	
Total	------	------	------	------	------	------	1	

ROMBLON.

[φ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	37.8?	23.9	83	65	4	4	------	
2	37.6	22.5	83	42	4	1	------	
3	37	25	81	50	9	1	------	
4	37.8	25.6	83	46	9	1	------	
5	37.5?	23.1	82	60	5	3	------	
6	37.6?	20.8	91	69	9	3	------	
7	37?	22.8	89	54	4	3	------	
8	35.5	23.8	93	54	10	5	------	
9	37.8	23.4	95	47	10	3	.5	d a.
10	37.7	25.5	80	45	3	2	------	
11	37	26.2	79	52	3	1	------	
12	37	26.2	81	57	9	5	------	
13	37.5	23.2	94	51	10	2	------	
14	37.6	23.3	96	-----	10	2	------	
15	36	23.4	94	64	10	4	------	
16	38.6	23.6	95	50	8	6	------	
17	38.1	24.2	93	-----	9	3	------	
18	38.7	25.4	92	46	5	2	------	
19	38.1	26.7	82	46	4	4	------	
20	39.8	27.7	82	-----	9	4	------	
21	37.8	25	93	69	9	7	------	⌣° p.
22	35.3	25.3	94	76	9	9	17.3	● ⌈4° a. ≲ p.
23	35.7	24.4	98	68	5	5	------	d° p° a.
24	36	24.1	95	72	4	8	1.5	⌈4° ⌣° p.
25	36.5	23.4	98	66	8	4	------	●° a.
26	36.5	24.2	95	60	3	4	.3	d p.
27	37	24.6	94	54	7	4	2.5	⌈4° p.
28	36.7	24.1	97	59	10	7	------	●° a.
29	37.3	24.9	88	58	5	3	.5	⊤° a.
30	35.6	25.9	94	67	9	5	------	●° ⊤° p° a.
31	36.3	25.7	96	62	6	5	20.1	d a. p. ⊤ p.
Mean	37.2	24.4	90	57.5	7.1	3.9	------	
Total	------	------	------	------	------	------	42.7	

Meteorological data for third and fourth class stations—Continued.

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	31.6	21.4	97	63	1	1	------	
2	32.7	22	99	66	1	3	------	
3	31.7	23.4	95	57	6	1	------	
4	32.5	22.3	98	58	2	2	------	
5	31.6	21.3	98	71	2	7	------	
6	32.5	22.1	94	63	3	4	------	
7	33.3	22.6	94	63	4	3	------	
8	33.4	21.5	95	62	1	1	------	
9	33.2	21.6	90	54	1	1	------	
10	32.9	22.1	97	59	5	2	2.8	d° a. p° p.
11	32.1	22.5	92	61	8	3	------	●° d° a.
12	31.7	22.6	97	63	3	3	------	
13	33.1	23.4	91	62	1	2	------	
14	33.5	22.8	94	55	0	1	------	
15	33.5?	23	95	62	1	4	------	┬° ●° d° p.
16	33.8	24.8	92	72	1	7	.3	d° p p.
17	35	23.4	90	61	1	3	------	
18	34.4	23.6	93	70	2	3	------	≤² p.
19	34	23.5	96	66	1	3	------	
20	33.8	24	97	67	1	3	------	┬° p.
21	33.2	24.2	93	80	2	8	------	┬ ●° p.
22	34.6	24.4	96	65	9	4	------	≤° p.
23	34	23.2	95	64	2	3	------	┬° p.
24	34.7	23.3	95	63	1	3	------	≤ p.
25	33.8	23.2	92	57	4	1	------	
26	34.5	23	92	60	2	1	------	
27	35	24.9	87	61	4	1	------	┬ ≤° ⊍° p.
28	35.8	24.2	90	60	2	1	------	≤ p.
29	34.7	24.4	92	68	1	1	------	┬° p.
30	34.4	24	95	68	1	4	8.1	┬ ● a. ┬° p.
31	35.2	23.4	97	56	1	2	------	┬ ≤° p.
Mean	33.6	23.1	94.1	63.1	2.4	2.8	------	
Total	------	------	------	------	------	------	11.2	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	31.2	25.9	------	------	6	6	------	
2	31.2	26.3	------	------	8	6	------	
3	30.7	26.6	------	------	9	6	------	
4	30.8	24.5	------	------	7	6	------	
5	31.2	24.3	------	------	7	6	------	
6	33.1	22.3	------	------	6	6	------	
7	31.6	22.7	------	------	7	7	------	
8	31.8	25.2	------	------	6	8	------	
9	31.6	24.9	------	------	9	5	------	
10	30.8	25	------	------	9	8	6.6	d a. ●° p.
11	30.2	24.4	------	------	10	7	3.8	●° a. p.
12	31.2	26.2	------	------	6	6	------	
13	32.6	24.8	------	------	7	6	------	
14	33.2	24.3	------	------	7	6	------	
15	33	25	------	------	6	5	------	
16	32	24.3	------	------	6	6	------	
17	33.3	24.5	------	------	8	6	------	
18	32	26.9	------	------	6	9	------	
19	32.3	27	------	------	9	6	------	
20	31.8	26.2	------	------	10	7	------	
21	32.3	24.6	------	------	7	8	------	┬ p.
22	30.7	23.9	------	------	7	7	------	┬ p.
23	31.5	24.9	------	------	6	7	------	
24	32.6	24.7	------	------	6	6	------	
25	31.6	24	------	------	8	5	------	
26	33.8	25	------	------	8	6	------	
27	34.8	24.9	------	------	7	7	------	
28	32.3	25	------	------	6	6	------	
29	32.6	25.8	------	------	7	6	------	
30	32.3	26.2	------	------	6	8	------	
31	33.6	24.2	------	------	7	7	------	┬ ≤ p.
Mean	32.1	25	9	7	7.2	6.5	------	
Total	------	------	------	------	------	------	10.4	

SUMAY, GUAM (LADRONE ISLANDS).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	31	25.6	84	63	6	9	------	
2	30.4	27?	84	65	8	6	------	
3	30.6	24.6	80	67	6	5	1.3	
4	31	23.8	84	64	4	5	------	
5	30.8	23.6	84	65	6	5	------	
6	29.8	23.2	84	68	4	6	5.1	
7	29.4	23.2	93	62	10	8	2.5	
8	30.8	24.4	77	64	6	5	------	
9	31.2	25	82	62	5	5	------	
10	31	25	80	68	6	6	------	
11	30	25	84	71	8	9	6.4	
12	31	24.6	84	64	8	8	------	
13	31.4	24.2	80	66	10	9	------	
14	31.8	25.6	84	65	5	7	------	
15	31.6	25	81	62	6	5	------	
16	31.8	25.6	87	64	10	5	------	
17	31.8	25	84	63	5	7	------	
18	32	25.4	84	68	6	5	------	
19	31.4	25.6	84	61	7	8	------	
20	32	24.6	81	60	5	5	------	
21	31.6	25	80	65	10	6	------	
22	32	25	81	65	6	5	------	
23	31.8	25.6	84	60	8	9	------	
24	30.4	23.4	84	68	8	8	------	
25	31.2	23.8	84	78	8	9	------	
26	32.6	25.6	81	60	5	6	------	
27	32	23.4	82	64	8	5	------	
28	32.6	24.4	84	60	10	8	------	
29	31.4	24.2	84	71	10	7	------	
30	30.4	24.2	84	70	6	8	------	
31	30.4	24.4	85	76	8	10	1.3	
Mean	31.2	24.7	83.2	65.5	7	6.7	------	
Total	------	------	------	------	------	------	16.6	

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	33.7	23.1	87	56	10	4	------	d° a.
2	33.8	23.1	84	56	10	3	------	
3	33.5	25.8	78	60	10	7	------	
4	34.2	24	93	52	10	4	------	
5	33.1	22	90	62	9	4	------	
6	34.2	22.5	88	60	8	4	------	
7	35.2	24.5	89	64	8	4	------	
8	31.5	26.5	80	76	10	6	------	┬ p.
9	34.5	24.2	89	63	7	5	59.7	┬ ●² p.
10	33.5	23.5	97	63	10	6	5.1	●² ≡ ┬ a.
11	34	24.7	83	55	10	6	3	p p.
12	33.1	24.2	92	67	10	8	4.1	p² a.
13	34	22.8	90	64	4	6	------	┬ p.
14	34.1	23	85	64	9	7	------	
15	33.9	24	90	63	8	10	------	
16	34.8	24	89	71	10	8	------	
17	32.5	23.5	91	70	10	10	------	┬ p.
18	34.3	23.4	84	66	8	7	------	┬ p.
19	34.6	25.2	78?	50	9	4	------	●° p.
20	34.5	26	86	63	10	10	------	●° a. ⌐⊻ p.
21	34.1	24	82	71	9	10	------	┬ a. p.
22	34.5	23	87	68	10	10	------	┬ p.
23	34	23.9	93	62	10	10	------	┬ a. p.
24	35.2	24.5	88	61	10	10	2	┬ a. ⌐⊻ ●° p.
25	35	23.8	93	58	10	9	------	
26	36.1	23.5	77?	59	4	10	------	┬ p.
27	37.2	23.5	82	65	4	6	------	┬ p.
28	35	24.8	93	61	10	10	------	⌐⊻ ⊍ p.
29	35	24.5	83?	64	7	8	------	┬ p.
30	35.5	24.1	86	69	10	8	------	┬ a. p.
31	33.4	25.6	87	70	10	8	------	┬ ⊍ p.
Mean	34.3	24	86.9	63	8.8	7.2	------	
Total	------	------	------	------	------	------	73.9	

Meteorological data for third and fourth class stations—Continued.

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	22.1	93	75	7	2	------	●° a.
2	32	21	96	69	7	4	2.9	♌ a. ☋ p.
3	31	23.6	90	70	10	4	------	●° a.
4	31.9	20.4	96	70	4	7	------	♌² a.
5	32	20.3	97	71	4	4	------	♌ a.
6	32.5	21.8	96	68	8	4	.8	♌° a.
7	32.5	24	94	77	9	8	------	● a.
8	32.8	23.1	96	67	8	6	------	
9	32	22	96	66	6	5	------	♌° a.
10	32.6	21.7	96	62	5	5	7.4	♌ a. ●° p.
11	31.9	23.4	89	75	10	7	.3	●° d ◠ p a. p° p.
12	32.4	22	87?	71	5	3	------	♌° a.
13	33.4	22.5	94	67	7	5	------	
14	33.5	22.7	86?	67	4	2	------	
15	33.7	23.2	87?	63	7	3	------	
16	33.4	25	88	70	8	7	------	
17	34	25.4	88	67	9	7	------	↘ p.
18	34	25	87	69	6	4	------	↘ p.
19	33.7	23.4	96	71	4	10	------	
20	33	24.2	94	77	9	8	1.3	d° a. ┬ d p.
21	32.4	23.4	94?	73	9	7	2.3	● p a. ↘ p.
22	33.6	23.2	96?	70	10	9	------	┼ ↘ p.
23	33	23	94	68	10	7	------	┼ ☋ p.
24	33.5	23.2	95	74	6	9	.3	┼² d ☋ ↘ p.
25	31	23.3	97	81	10	9	1.3	●° a. d° a. p.
26	33	23.2	97	65	7	4	------	↘ ☋ p.
27	35.5	23.5	94	64	9	7	------	☋ ↘° p.
28	35.4	25.4	90	67	8	5	------	☋° ↘ p.
29	35	23.3	93	70	4	5	------	p° a. ↘° ☋ p.
30	34.2	24.6	93	69	9	5	------	
31	35	24.5	94	64	6	5	------	↘² ☋° p.
Mean	33.1	23.1	93	69.6	7.3	5.7	------	
Total	------	------	-----	-----	------	-----	16.6	

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.4	19	96	49	2	7	------	
2	35.1	19.5	93	54	5	8	------	
3	34.6	19.6	95	46	8	9	------	
4	34.5	19.1	94	50	9	8	------	
5	35.4	19.4	95	48	7	8	------	
6	36.2	20	92	42	9	8	------	
7	35.9	21.9	90	50	8	8	------	
8	36	22	93	61	9	9	------	
9	34	20.6	95	62	8	9	------	
10	34.7	19.2	93	51	7	8	------	
11	32.4	20.6	95	56	8	9	0.8	p a.
12	35.5	20	94	58	4	8	1	●° p.
13	36.1	21.8	97	52	5	8	------	
14	37.2	22.5	93	41	5	8	------	
15	37.1	23	88	41	9	8	------	
16	36.9	22.9	93	43	6	8	------	
17	37.2	22.5	93	43	8	8	------	
18	36	22.4	92	57	6	8	------	
19	35.2	21.7	95	62	3	9	------	┬° p.
20	35.3	23	95	90	5	8	26.8	● p.
21	35.9	22.6	98	76	6	8	------	
22	35.6	21.4	98	59	10	9	------	┬° p.
23	35.5	22.7	95	47	8	8	------	
24	36.3	22.9	93	65	8	9	40.9	┬° ●² p.
25	34.5	22.3	97	56	10	8	------	
26	35.5	23.1	93	50	3	8	------	
27	36.3	23.2	97	51	3	8	38.1	●² p.
28	35.3	22.2	97	57	9	9	1.5	p p.
29	36.4	23.1	94	51	3	8	2.7	⌈↯ ● p.
30	36.4	23	95	68	7	9	10.4	● ┬ p.
31	36.2	22	97	50	7	8	1.5	●° p.
Mean	35.6	21.6	94.4	54.4	6.6	8.3	------	
Total	------	------	-----	-----	------	-----	123.7	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	36.9	23.6	80	40	1	6	------	
2	37.8	24.4	82	43	4	4	------	
3	37.9	23.3	81	38	1	4	------	
4	36.4	23.2	88	46	3	6	------	
5	37.3	22.4	85	38	3	4	------	
6	35.3	22.7	84	53	6	5	------	
7	35.3	24.4	84	58	3	4	10.4	┬ p.
8	32	23.2	90	70	9	6	------	● a.
9	35.5	23.4	90	63	3	7	.5	┤ d p.
10	36.3	23.5	89	40	3	4	------	
11	36.4	22.8	86	40	1	4	------	
12	37.5	24.4	85	37	6	4	------	
13	35.4	23	85	50	3	3	------	
14	35.4	23.5	80	43	6	4	------	
15	35.6	23.6	82	54	4	7	------	
16	36.3	24.3	85	54	4	3	------	
17	36	23.1	87	54	4	6	------	
18	38.2	23	81	37	3	5	------	↘ p.
19	38.8	22	92	37	4	3	------	
20	37.3	25.3	86	60	6	7	------	┬ ↘ p.
21	34.5	25	87	66	4	7	------	
22	35.7	23.8	92	63	5	6	------	
23	35.7	24.8	94	51	5	4	------	
24	35.3	25	92	65	7	7	2	○ a. ┬ p p.
25	34.6	24	93	63	4	7	.5	┤ d a.
26	36.3	24.3	93	63	1	7	------	○ p.
27	36.2	24.2	92	49	3	3	------	
28	35.6	24.3	87	57	5	6	------	↘ p.
29	35.8	24.4	90	52	4	6	------	
30	36.7	24.6	90	48	3	4	.8	● p.
31	35.6	24.3	93	63	3	6	------	○ p.
Mean	36.1	23.8	87.3	51.5	3.9	5.1	------	
Total	------	------	-----	-----	------	-----	14.2	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	20.7	97	59	7	5	------	
2	------	20.4	96	55	2	8	------	
3	------	21.2	98	54	4	4	------	
4	------	20.5	96	54	2	8	------	
5	------	20	96	54	7	8	------	
6	------	20.1	96	54	8	9	------	♌ p° a.
7	------	20.3	96	55	5	8	5.6	●° p.
8	------	20	96	55	2	8	------	┤ d ◠ p.
9	------	19.5	97	54	7	8	54.6	⌈↯° ●² p.
10	------	19.6	96	61	2	4	------	↘ p.
11	------	19.1	96	59	5	8	------	♌ a.
12	------	19.9	97	58	2	7	------	
13	------	20	98	56	4	8	------	
14	------	19.7	96	55	7	8	------	┬° ↘ p.
15	34	19	97	55	2	8	------	
16	34.5	20	97	60	4	8	------	┬° ↘ p.
17	33.8	19.7	96	58	2	6	------	
18	34.1	20.3	97	57	7	8	------	d p.
19	34.4	20	97	58	2	5	------	≡ a.
20	34	20.2	97	57	7	8	------	≡ a.
21	34.8	20.8	98	61	4	9	10.2	♌ ≡ p² a. ┬° p.
22	33.3	20.5	97	62	5	8	2.5	p° a.
23	33.7	20	96	59	2	6	------	┬° p.
24	33.8	20.6	97	58	5	9	8.9	┬° a. ● p.
25	34	20.1	96	59	7	9	------	┬ d p.
26	32.4	19.5	97	57	3	8	------	≡ a. d ┬° p.
27	32.6	19.3	98	59	5	9	5.3	● p.
28	30.8	20	97	58	7	9	------	≡ a.
29	31.3	20.4	97	61	2	9	1.8	≡ a. ●° ┬° p.
30	31	20.1	96	61	5	8	------	┬° a.
31	32.8	20.5	97	59	6	10	14.7	● a.
Mean	33.3	20.1	96.7	57.5	4.5	7.7	------	
Total	------	------	-----	-----	------	-----	103.6	

Meteorological data for third and fourth class stations—Continued.

SANTA CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.9	22.9	91	41	2	2	------	☊° a.
2	34.4	22.6	88	45	7	4	------	
3	34.5	22.8	87	44	2	3	------	
4	34.5	23.6	88	47	4	4	------	☾ p.
5	35.3	23.2	90	46	4	5	------	
6	35.2	22.2	91	51	3	7	------	☥ ☾ p.
7	33.6	23.5	87	56	7	7	4.3	● p.
8	31.8	24.1	92	63	9	7	------	
9	34.4	22.1	93	51	2	7	------	p a. ☥ p.
10	------	23.8	92	46	5	4	------	
11	34.6	22.2	91	47	7	5	------	d° ◠² a.
12	34.2	21.6	88	57	3	7	------	
13	37.2	22.2	95	41	2	6	------	☊ a.
14	36.8	22.9	91	44	3	6	------	☊° a. ☾ p.
15	36	22.6	92	49	7	7	------	☊ a.
16	35.7	22.8	93	48	4	6	------	
17	36.1	21.2	93	48	5	4	------	
18	36.5	22.3	92	53	3	4	------	☥ a.
19	36.3	23	90	47	3	3	------	
20	37	24.6	88	48	8	7	.5	d° a. ☈° p.
21	34.9	24.2	93	62	7	6	.3	☥ d° a. ☾ p.
22	36	23	96	45	8	7	------	☾ p.
23	34.9	23.5	93	71	5	8	------	☥ a. p.
24	35.7	24	93	66	3	7	------	☥ a. p.
25	36.2	23	93	70	3	8	5.6	d ☥° p.
26	36.1	22.6	97	53	2	7	------	●° a. ☥ p.
27	36.8	23.6	93	43	3	7	54.4	●² ☈☿² p.
28	35	23.2	97	65	6	9	35.3	☰° a. ● ☈☿² p.
29	34.7	23.2	95	89	2	10	35.8	☰° a. ●² ☈☿² d p.
30	35.3	23.6	95	87	3	7	.3	d p ☥ p.
31	35.3	24	97	57	7	6	------	☊ a. ☥ p.
Mean	35.3	23	92.1	54.2	4.5	6	------	
Total	------	------	------	------	------	------	136.5	

ANTIPOLO.

[ϕ=14° 36′ N; λ=121° 10′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	36.8	24.2	70	43	3	4	------	☋ p.
2	37.3	24.9	75	32	1	2	------	☈☿ p.
3	38	23.9	70	36	1	2	------	
4	36.4	24.6	73	50	5	5	------	
5	36.3	23.1	75	44	3	5	------	
6	36.8	24.9	78	46	9	4	------	☈☿ p.
7	37.2	24	87	51	4	7	3	☥ ● p.
8	31.7	22.6	87	81	9	9	------	☥ a. p. d p.
9	35.4	22.3	87	58	6	10	61.5	●² ☥ p.
10	33.1	22.4	79	55	4	6	------	
11	34.1	21.9	72	54	2	5	------	
12	36.5	21.9	75	43	2	4	------	
13	36.8	24.3	90	40	5	3	------	
14	36.8	24.5	88	40	2	2	------	
15	37	24	87	49	9	4	------	
16	36.5	23.7	92	47	9	8	------	
17	36.6	22.8	90	49	9	4	------	☊ a.
18	37.3	23.5	74	48	4	6	------	☊ a.
19	38.1	23.4	70	30	1	3	------	
20	37	24.4	71	77	8	8	10.2	● ☥ p.
21	33.6	24.6	90	64	9	9	------	p° a. ☥ ☾ ☋ p.
22	35.5	23.2	91	52	8	8	------	☊ a.
23	35.1	23.6	87	73	4	9	------	☊ a. ☥ ☾ ☋ p.
24	35.6	23.4	92	64	8	9	17.5	☊ a. ● ☥ ☾ p.
25	35.3	23.6	95	69	3	9	63.5	☊² a. ●² ☈☿² p.
26	35.2	21.4	91	54	1	6	------	☊ a.
27	35.4	23.4	92	72	2	8	------	☊² a. ☥ p° ☾ p.
28	35.8	23.6	91	51	6	7	3.8	☊² a. ☥ ☾ ● p.
29	35.7	22.6	88	62	3	8	------	☊² a. ☥ p.
30	35.6	24	92	49	2	6	1.8	☊² a.
31	35.8	23.2	96	53	3	7	------	☊² a. ☈☿ p.
Mean	35.9	23.5	83.7	52.8	4.7	6	------	
Total	------	------	------	------	------	------	161.3	

IBA.

[ϕ=15° 20′ N; λ=119° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	24	93	66	10	4	------	d a. ☥ a. p. ☾ p.
2	33.5	20.5?	83	62	4	4	24.7	d ◠ ● ☈☿ p.
3	35.4	22.9	78	60	5	2	------	
4	32.5	23.7	88	65	7	4	7.4	● ☈☿² p.
5	32.2	24.5	88	64	10	6	------	☽° ☥ ☾ p.
6	32.6	23.5	91	60	3	2	------	☾° p.
7	33	20.9	87	59	3	3	------	☊ a. ☾ p.
8	33.3	22.4	91	63	5	7	------	
9	33.4	22.2	91	60	8	4	20.1	☈☿ ● p.
10	32.9	22.8	82	59	10	5	------	☈☿ d p.
11	34	24.5	72	57	6	3	------	
12	33.5	23.2	94	64	2	6	------	☊ a. ☥ d p.
13	32.8	23.5	93	67	10	8	------	☥ ☾ p.
14	33.5	22.5	91	60	4	2	------	☾ p.
15	33	21.4	94	63	10	6	------	
16	33.1	21.4	89	60	5	10	------	☽° p.
17	33	21.4	93	61	7	2	------	☊° a. ☾ p.
18	34.4	21.4	94	55	10	3	------	☊ a. ☈☿° d p.
19	34.1	24	87	63	3	3	------	☈☿ d p.
20	33.9	23.7	88	70	10	10	------	☈☿ d p.
21	32.7	24.2	93	89	10	10	.5	☨ ☥ a. ☈☿ ●° p.
22	34.2	23	95	60	6	5	------	☥ ☾² ☋ p.
23	33.8	22.4	90	58	6	6	------	☥ ☾ ☋ p.
24	33.5	22.5	91	58	5	8	------	☥ ☾² ☋ p.
25	33.5	23.4	91	70	7	10	------	☈☿ d p.
26	33.5	23.4	83	81	8	10	1.6	☈☿ d ●° ☋° p.
27	33.5	23.3	96	66	3	9	15.4	☈☿² ● p.
28	32.8	23	96	72	10	10	------	☽² a. p. ☈☿ d p.
29	33.1	23.9	92	68	4	6	------	☨ a. ☈☿ d p.
30	33.5	24.4	92	66	10	4	.1	☥ ☾² p.
31	32.6	24.5	93	78	10	10	------	d° ◠ ☥ a. ☈☿² ☋
Mean	33.3	23	89.6	64.6	6.8	5.9	------	
Total	------	------	------	------	------	------	69.8	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	37	24.4	97	44	10	8	------	d ◠ a.
2	36.6	24.4	96	44	9	8	------	☊ ☰° a.
3	38	23.1	94	39	2	3	------	☊ a.
4	37.3	24.2	89	39	2	3	------	☊ a.
5	34.8	25.2	95	45	10	10	------	d a. p.
6	37.4	24.2	94	43	3	3	------	☊ a.
7	37.5	22.3	95	40	5	4	------	☊ ☰° a.
8	35.6	21.5	95	68	3	9	17.8	☊ ☰° a. ● p.
9	36.4	23.7	96	39	8	7	2	☊ ☰° a. ●° d p.
10	35.3	23.3	97	48	3	3	------	☊ ☰ a.
11	37	22.5	96	44	3	2	------	☊ ☰° a.
12	38.2	23.4	94	42	2	7	------	☊ a.
13	36.5	24	91	41	7	3	------	☊ a.
14	36.2	22.8	92	41	3	2	------	☊ a.
15	36	22.6	-----	-----	2	2	------	☊ a.
16	37.4	22.3	-----	40	2	7	------	☊ a.
17	38.2	22.2	89	39	3	3	------	☊ a.
18	38.5	21.5	88	38	3	3	17.5	☊ a. ☈☿ ● p.
19	37	23.8	92	39	2	3	------	☊ a.
20	38.8	23	92	37	2	7	------	☊ a.
21	36.5	22	97	32	8	8	45.7	☊ ☰ a. ● ☈☿ p.
22	36.4	22.8	96	40	8	7	------	☊ ☰° a. ◠ p.
23	36.5	23.1	97	41	3	9	------	☊ ☰ a. ☈☿ p.
24	36.6	21.9	93	37	3	8	------	☊ a. d ◠ p,
25	36.1	23.1	93	39	3	8	4.6	☊ a. d p.
26	36.3	23.7	95	45	3	9	------	☊ ☰° a.
27	35	23.6	96	45	2	9	3.8	☊ ☰° a. d p.
28	36.7	23.8	94	41	7	8	------	☊ a. d° p.
29	37	23.4	95	41	2	9	------	☊ ☰° a. ☥ p.
30	36.4	23.5	96	41	3	7	10.2	☊ ☰° ● ☈☿ p.
31	36.5	23.6	96	51	8	10	12.7	● p.
Mean	36.8	23.2	94.1	42.1	4.3	6.1	------	
Total	------	------	------	------	------	------	114.3	

Meteorological data for third and fourth class stations—Continued.

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.3	24	96	60	10	4	2.3	● ≡° d a. ◟ ⊽ p.
2	30.7	23.6	96	76	10	5	19.1	● d a. ⊽ p.
3	30.8	22.4	96	72	10	1	2.3	● ◟ ≡° a.
4	32.1	22.1	93	72	10	9	------	♌ a.
5	31.8	24	93	73	10	1	------	d a. ◟ p.
6	33.3	23.6	94	68	10	1	3.8	◟² ● p.
7	31.7	24.1	96	72	10	2	34.3	● a. ◟² ┬ ●² p.
8	30.3	23.9	96	77	10	9	13.2	● a. p. ┬ ◟² p.
9	29.4	22.8	96	78	10	10	9.4	d a. p. ◟ ● ┬ p.
10	31	22.6	97	73	10	9	7.9	≡ a. ● a. p. ◟ p.
11	31.1	21.7	96	72	10	2	------	♌ ≡° a.
12	30.3	22.1	95	81	10	9	1.8	♌ ≡° ● a. d ◟ p.
13	33.3	22.8	96	69	10	7	------	♌ ≡° a. ┬² ◟² d p.
14	31.6	24.7	95	77	10	6	19.3	◟² ┬ p.
15	31.6	24.9	97	76	10	3	------	● a.
16	36	22.7	94	52	10	1	------	♌ a. ◟ ┬ p.
17	34.1	23.4	91	63	10	1	------	◟² ┬ p.
18	33.5	25.4	93	69	10	1	------	d a. ◟² ┬ p.
19	33	24.5	93	68	10	1	------	d a. ◟ p.
20	33.1	22.1	92	67	10	5	7.9	◪ ● p.
21	32.9	24.6	96	78	10	9	43.9	● a. ◪ a. p. ●² p.
22	32.1	23.1	97	69	10	10	4.3	♌ ≡ a. ⊕² ◪ ● p.
23	31.7	24.4	96	73	10	10	------	♌ ≡° a. ┬ ◟ p.
24	33.1	23.8	95	69	10	3	------	♌ ≡° a. ┬ p.
25	32.9	24	95	72	10	1	22.4	♌ ≡° a. ●² ◪ p.
26	33	23.9	96	69	10	1	------	♌ ≡° a.
27	33.6	24	93	71	10	9	37.3	┬ a. ┬² ◟² ●² p.
28	32.1	24.9	97	71	10	10	7.6	● ◪ a. ┬ ◟ p.
29	32.6	24.5	97	72	10	1	------	● ≡ a. d p.
30	34.6	24.4	96	63	10	1	------	♌ ≡° a. d ┬ ◟² ⊽ p.
31	36.3	24.9	93	63	10	6	6.1	● ◪ p.
Mean	32.4	23.7	95	70.5	10	4.8	------	
Total	------	------	------	------	------	------	242.9	

SAN FERNANDO, UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.9	24.6	83	54	10	2	------	◪° p.
2	36	25	85	50	4	2	------	◟° p.
3	36.4	25.8	86	52	0	1	------	◟° p.
4	34.5	25.6	86	62	4	2	------	┬° d° a. ┬° ◟° p.
5	35.4	26.3	80	53	3	2	------	┬° ◟° p.
6	34.7	23.1	83	58	1	1	------	◟° p.
7	34.5	22.8	88	60	1	1	------	◟° p.
8	33.5	24	84	70	2	10	------	d° a. ◟° p.
9	34.7	22.6	84	58	6	4	------	⊕° a. ◟° p.
10	36.5	25.3	80	50	9	7	------	◟° p.
11	35.6	25.9	73	50	6	2	------	
12	35.4	24.5	78	58	0	1	------	
13	34.9	25.3	84	58	9	6	------	┬° a. ◟° p.
14	35.4	25.6	83	54	4	4	------	◟° p.
15	35.4	25.3	84	53	5	1	------	
16	36.8	25.3	80	53	6	7	------	◯° a. p.
17	35.6	25.1	85	56	2	1	------	◟° p.
18	35.3	24.5	84	55	1	2	------	┬° ◟° p.
19	35.3	24.5	80	56	1	2	------	┬° a. p. ◠° p.
20	35.4	24	77	57	1	6	1	┬° a. p. ◠° d² ◟° p.
21	34.7	24.1	89	57	1	6	------	┬° a. p. ◟° p.
22	34.9	24.1	83	59	8	2	------	┬° ◟° ⊽° p.
23	34.7	23.8	82	57	3	2	------	┬° ◠° d° p.
24	34.7	23.8	77	59	4	4	------	◟° p.
25	35.1	25.1	81	57	1	6	.8	◠° ◪° d° p.
26	34.6	24.6	80	71	5	9	------	┬° a. p. ◟° ⊽² p.
27	35	24.8	79	59	1	7	------	┬° a. ◪° p.
28	37.2	25.2	81	56	7	9	.3	┬° a. p. d° ◪° p.
29	36.9	25.9	79	52	1	8	------	┬° a. p. ◟° p.
30	36.3	25.2	80	54	4	2	------	◯° a. ◪° p.
31	35.4	26.4	80	58	9	10	------	◠° ┬° ◯² a. ┬° ◟° ◟°
Mean	35.4	24.8	81.9	56.6	3.8	4.2	------	
Total	------	------	------	------	------	------	2.1	

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	39.5	22.5	77	37	10	4	11	d a. ◪ ● p.
2	36.7	23.1	93	46	1	4	------	
3	39	22.4	94	30	0	1	------	
4	38.3	22.3	80	34	5	3	------	◟ ┬° p.
5	39	23.6	78	36	4	4	------	◟ ┬° p.
6	39.1	23.8	84	38	9	6	2.3	◪° ●° p.
7	36.8	23.3	92	46	9	6	22.1	◟ ●° p.
8	33.9	22.9	95	55	10	9	7.4	●° a. p. ◟ p.
9	34.3	23.8	92	52	7	7	------	◟° p.
10	36.7	22.4	91	44	9	6	------	
11	37.4	21.7	85	33	1	1	------	
12	38.1	21.5	87	32	1	1	------	
13	35.2	24.6	84	55	9	9	------	◟ ┬ p.
14	37	24.9	87	51	9	6	.5	◪ d° p.
15	38.1	24.3	89	37	9	5	------	
16	40.5	23.4	84	26	6	9	------	
17	39.9	24.5	80	26	1	4	------	◟° p.
18	39	23.2	81	30	2	4	------	◟ ┬ p.
19	38.1	25	84	32	2	4	------	◟ p.
20	40	21.3	78	23	2	5	7.4	◟ ┬ ● p.
21	38.5	23.4	89	35	4	3	42.4	◟ ●² p.
22	35.4	23.3	95	51	8	6	------	┬ ◟° ⊽ p.
23	36.5	24.3	91	41	3	2	------	◟ ┬ d° p.
24	36.7	23.9	92	47	9	3	2	◟ ┬ d p.
25	37.2	24	91	42	1	4	7.6	◟ ● ┬ p.
26	35.1	23.9	92	55	6	7	3.3	● ◪° p.
27	35.2	24.4	93	56	9	9	------	┬ ◟ d° p.
28	35.1	23.5	95	54	9	7	------	♌ a. ◯° ⊕ p.
29	38.5	23.9	88	39	1	2	41.4	●² ◪ ◟° p.
30	36.2	22.7	97	53	4	3	.3	♌ a. ┬° ◟ d° p.
31	35	22.6	93	56	9	3	7.9	●° ◪ p.
Mean	37.3	23.4	88.1	41.7	5.5	4.7	------	
Total	------	------	------	------	------	------	155.6	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	25.6	79	69	9	1	------	┬° ◟ p.
2	-----	25.1	76	66	1	5	------	♌ a. ┬° p.
3	32.6	25.8	76	57	0	0	------	
4	32.8	25.8	78	56	8	1	------	
5	32.5	25.6	77	63	7	1	------	◟ p.
6	32.8	25.2	80	65	0	1	------	♌ a. ◟ p.
7	32.7	24.8	82	57	1	1	------	♌ a. ◟ p.
8	32.2	24.7	83	60	7	9	------	♌ a. d ◟ p.
9	32.8	24.1	-----	57	6	3	------	♌ a. ◟ ◡ p.
10	33.2	24.1	77	58	8	4	------	◪° d p.
11	32.6	24	83	57	2	3	------	♌ a.
12	32.6	24	77	69	1	3	------	
13	32.8	26	77	60	4	7	------	♌ a. ◟ p.
14	32.8	25.5	84	58	4	7	------	♌ a. ◟ p.
15	32.8	25.4	80	63	8	3	------	
16	32.2?	25.2	78	60	7	6	------	d p.
17	32.8	25.2	81	63	4	3	------	┬° a. p. ◠° p.
18	32.6	26.4	77	60	2	4	------	┬° ◠° ◟ p.
19	32.9	25.2	78	69	2	4	------	♌ a. ┬° ◠° d p.
20	33.5	25.2	80	64	2	9	------	♌ a. ┬° d p.
21	32.8	25.1	84	67	3	4	------	♌ a. ┬° ◟ ◡ p.
22	32.8	24.8	83	63	5	3	------	♌ a. ◟ p.
23	32.3	24.7	79	64	4	2	------	♌ a. ◡° ◟ p.
24	32.8	24.7	80	60	3	4	------	♌ a. ◟ ◡ p.
25	32.9	24.7	80	65	5	3	------	┬° ◠° ◟ d p.
26	32.8	24.5	80	66	7	8	5.1	◪² ● p.
27	32.9	24.4	89	72	2	4	------	┬° a. ◟ p.
28	33.5	24.2	77	69	2	8	------	♌ a. ┬° ◟ ⊽ p.
29	33.1	24	84	68	3	8	------	♌ a. ┬° d p.
30	32.9	24	86	68	6	3	------	♌ a. ┬° ◟ p.
31	32	24	77	65	9	9	------	┬° a. p. ◟ p.
Mean	32.8	24.9	80.1	63.2	4.3	4.2	------	
Total	------	------	------	------	------	------	5.1	

Meteorological data for third and fourth class stations—Continued.

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.9	25.1	85	57	0	2	------	
2	35.2	24.4	91	55	1	3	------	
3	35.3	24.7	74	53	0	2	------	
4	33.7	24.4	82	59	0	1	------	
5	34.2	23.3	89	48	3	2	------	
6	34.3	23.8	83	56	0	3	------	d° p.
7	34.7	24	77	56	0	2	------	
8	34.1	25.2	76	59	10	10	------	d° p.
9	34.9	24	83	49	3	3	------	⌒ p.
10	33.8	25.1	74	63	6	8	26.4	⌐◹² ● p.
11	33.6	24.3	92	61	0	5	------	⊤² ⌒ d° p.
12	33.4	24.4	91	62	0	4	------	
13	33.7	23.9	90	58	0	2	------	
14	34.8	24.3	91	55	0	4	------	
15	35.1	25.5	79	49	3	3	------	
16	34.6	24.5	84	54	4	6	------	
17	34.4	25.4	80	60	10	9	------	
18	33.7	25	80	62	1	2	------	⌒ p.
19	34.5	24.9	82	61	0	4	------	
20	34.3	25.6	85	64	0	5	------	⊤ p.
21	34	23.6	87	58	0	3	------	⊤ p.
22	34.1	23.7	88	54	0	3	------	
23	34	23.2	91	50	0	2	------	
24	34.8	23.9	88	55	0	4	------	
25	35.1	24.7	91	53	0	3	------	
26	34.7	25	86	56	0	3	------	
27	33.9	24.5	94	55	0	2	------	
28	35.3	25.2	85	53	1	4	------	⊤ ⌒ p.
29	35.3	26	85	64	1	7	------	⊤ a.
30	35.4	25.6	90	55	1	3	------	⊤ p.
31	34.1	25.4	82	58	9	9	1	⊤ d² a. d° p.
Mean	34.4	24.6	85	56.5	1.7	4	------	
Total	------	------	------	------	------	------	27.4	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	------	89	74	4	2	------	Ω p.
2	32.1	------	91	75	7	5	0.3	d a.
3	32.2	------	84	70	5	4	------	Ω² p.
4	31	------	93	75	0	5	.2	Ω² a. d p.
5	30.4	------	88	72	6	7	------	d° v a.
6	31.4	------	89	90	4	10	3	⊤° ●° ⌒° Ω p.
7	30.4	------	93	79	3	4	------	v a. Ω a. p.
8	31.5	------	94	83	9	10	------	⊤° ◹ Ω p.
9	31.7	------	89	83	8	8	32	d° ● p.
10	30.5	------	93	72	10	5	1.3	●² a.
11	31.5	------	85	74	4	3	------	●° v a. Ω p.
12	30.7	------	90	75	1	4	2	Ω a. p.
13	30	------	89	77	4	5	------	●° a.
14	30.4	------	87	80	7	5	12.1	● a.
15	31.8	------	89	74	4	4	------	
16	30	------	88	85	6	10	------	
17	31	------	92	81	5	5	------	Ω° p.
18	31.4	------	90	80	3	2	------	Ω² p.
19	31.8	------	92	81	0	4	------	Ω a.
20	32.5	------	90	68	3	4	------	Ω² p.
21	31	------	92	70	2	4	------	Ω a.
22	31.2	------	91	79	6	4	------	Ω p.
23	30.8	------	89	73	4	7	------	v a. Ω p.
24	31	------	90	69	7	6	------	d° a.
25	32.3	------	89	72	6	4	------	
26	31.7	------	94	73	6	5	------	◹° p.
27	32.4	------	92	79	7	6	1.6	d° a. ●° ◹° p.
28	31.2	------	92	76	4	5	------	
29	33.9	------	94	76	3	4	------	◹° ⊓² p.
30	31.7	------	92	84	4	5	3.8	●° ⊤° a. ⌐◹° p.
31	30.4	------	92	95	9	10	52.4	●° ⊤° a. ●² ⌐◹² Ω° p.
Mean	31.3	------	90.4	77.2	4.9	5.4	------	
Total	------	------	------	------	------	------	108.7	

SEISMOLOGICAL BULLETIN FOR MAY, 1912.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

4, $14^h\ 31^m\ 45^s$* [4, $22^h\ 31^m\ 45^s$]. **Central Luzon.** Earthquake of intensity III, which was both registered and felt in the Observatory at Baguio. Its epicenter was at a short distance from the mountain capital, probably to the east of it, in the Province of Nueva Vizcaya.

6, $10^h\ 40^m$ [6, $18^h\ 40^m$]. **Santo Domingo** (Batanes Islands). Oscillatory earthquake. Direction N–S, intensity II–III, duration 4 seconds.

7, $15^h\ 4^m$ [7, $23^h\ 4^m$]. **Southern Samar and northeastern Leyte.** Earthquake of intensity IV, whose epicenter appears to have been not far from the southern coast of Samar, some 40 kilometers from Tacloban and 60 from Guiuan, which stations reported it.

10, $10^h\ 5^m\ 54^s$* [10, $18^h\ 5^m\ 54^s$]. **Northeastern Mindanao.** Earthquake of intensity VII–VIII, originated in the southeastern part of Butuan Bay. The notices received from Tubay and Cabarbaran, situated along the southeastern coast of that bay, assure us that there the phenomenon had very little less intensity than the great earthquake of July 12, 1911, whose epicenter lay far to the south, toward the central region of the Agusan Valley. At Butuan, on the western bank of the Agusan River and some 12 kilometers from its mouth, the intensity of the disturbance reached VI–VII of the scale, and the combined trepidatory and oscillatory movements of large amplitude and varying directions produced the impression that the movements were rotatory. The shocks lasted approximately 30 seconds. A few small cracks developed in thin walls, and many in the ground, the general direction being east to west. It must be remarked that the western bank of the Agusan, on which is located the town of Butuan, is alluvial soil and, hence, easily cracked; in fact, it seems to have formerly been an island in the river, and during exceptionally high risings of the latter its waters still flow through an ancient channel to the west of the town. The direction of the fissures, perpendicular to the river, is somewhat strange, but in accordance with the bearing of the epicenter which lay to the north of the town. After the principal earthquake the epicentral region was shaken by a great number of slight repetitions which lasted until the early morning of the 11th. The principal aftershocks, felt likewise at Butuan, were: $18^h\ 26^m$ (Insular time), $19^h\ 9^m$, $19^h\ 47^m$, $20^h\ 15^m$, $2^h\ 9^m$ of the 11th, and $2^h\ 18^m$. What we may call the meizoseismic area, that is, within which the intensity of the earthquake exceeded degree V, seems to have formed a very narrow belt, extending in the direction N–S along the mouth of the Agusan and the southeastern part of Butuan Bay. This is indicated

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in Greenwich mean time (Midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

by the following facts: In the town and port of Nasipit, some 30 kilometers to the west, the intensity of the earthquake remained below degree III. From the region east of the Agusan we have no data, since no town or settlement of any importance exists there within a distance of 70 kilometers. Toward the south, the disturbance was of intensity III–IV at Talacogon, a distance of 70 kilometers; and toward the north its intensity barely exceeded III at Surigao, at a distance of 80 kilometers. There seems to be no doubt that this earthquake resulted from movements originating in the fracture or seismotectonic line which runs through the entire Agusan Valley and Butuan Bay, and which the writer has described in the Bulletin for August, 1910. Ever since the great earthquake on July 12, 1911, a very great number of seismic disturbances originated in various parts of this line, over about 160 kilometers of its length. A noteworthy circumstance of the earthquake of May 10, 1912, which we are discussing, lies in the fact that it has been registered only at Manila and Baguio, at the respective distances of 780 and 990 kilometers, but nowhere outside of the Archipelago; while other earthquakes of equal or even less force, originating in the same fault line, but more toward south, in the central portion of the Agusan Valley, are usually registered up to distances of 5,000 kilometers.

12, $13^h\ 45^m$ [12, $21^h\ 45^m$]. **Santo Domingo** (Batanes Islands). Trepidatory earthquake of intensity IV, accompanied by seismic noises of degree VI (Davison).

15, $23^h\ 0^m$ [16, $7^h\ 0^m$]. **Santo Domingo** (Batanes Islands). Oscillatory earthquake. Direction SE–NW, intensity III, duration 2 seconds.

16, $7^h\ 30^m$ [16, $15^h\ 30^m$]. **Sarangani** (S of Mindanao). Earthquake of intensity III.

16, $11^h\ 52^m\ 6^s$* [16, $19^h\ 52^m\ 6^s$]. **Cuyo Island.** Oscillatory earthquake. Direction N–S, intensity III, duration 4 seconds. The duration of the preliminary movements registered at Manila indicates that the center of this disturbance lay to the north of the island, between Cuyo and Mindoro.

17, $6^h\ 5^m$ [17, $14^h\ 5^m$]. **Sarangani** (S of Mindanao). Earthquake of intensity II–III.

23, $5^h\ 42^m\ 54^s$* [23, $13^h\ 42^m\ 54^s$]. **Baguio** (W of Luzon). Oscillatory earthquake. Direction E–W, intensity III, duration 2 seconds.

24, $7^h\ 26^m$ [24, $15^h\ 26^m$]. **Surigao** (NE of Mindanao). Trepidatory earthquake. Two distinct series of shocks were observed; intensity II–III, duration about 4 seconds.

31, $13^h\ 19^m$ [31, $21^h\ 19^m$]. **Surigao** (NE of Mindanao). Oscillatory earthquake of intensity II.

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Mean Greenwich. Midnight=0 h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T_0=7. ϵ=3.6; A_E: T_0=7. ϵ=3. Alluvium 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
98	1	I_r	eP	12 43 07				
			L	48 00				
			M_N	50 42	11-12	4		
			F	13 23				
99	2	I_d	eP	6 44 39				
			L	44 57				
			M_N	45 07	1-2	64		
			F	49				
100	3	I_r	eP	19 06 50				
			eL	11 00				
			M_N	12 02	14-15	6		
			M_E	12 09	9-10		5	
			F	37				
101	4	I_r	eP	14 31 45				Central Luzon.
			eL	32 06				
			F	43				

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
102	6	I_u	P	19 17 11				Iceland.
			S	29 37				
			L	41 48				
			M_E	55 14	15-16		4	
			M_N	20 04 36	16-17	4		
			F	41				
103	8	I_d	eP	7 01 51				
			L	02 16				
			M_E	02 26	2-3		21	
			F	05				
104	10	I_v	eP	10 05 54				Northeastern Mindanao.
			L	07 46				
			M_N	09 04	5-6	10		
			F	54				
105	11	I_r	e	17 36 10				Taken from the Horizontal Pendulums. Time marks missing on Wiechert seismograph.
			F	18 25				
106	11	I_r	e	20 27 20				Do.
			F	58				
107	13	I_r	e	4 49 47				
			F	5 05				
108	15	I_r	e	0 15 35				
			F	39				
109	16	I_d	iP	0 10 09				
			F	12				
110	16	I_v	eP	11 52 06				Cuyo Island.
			L	52 40				
			M_N	52 48	2-3	6		
			F	12 01				
111	20	I_v	eP	7 58 54				
			F	8 20				
112	21	I_r	eP	8 34 27				
			eS	38 55				
			eL	43 22				
			M_E	44 52	13-14		13	
			M_N	45 09	12-13	10		
			F	9 26				
113	23	II_u	eP	2 29 30	2-3			Maldive Islands.
			iS	36 30	6-7			
			L	43 34	10-11			
			M_E	45 12	10-11		138	
			M_N	46 13	11-12	87		
			F	4 22				
114	23	I_v	eP	5 42 54				Baguio (W of Luzon).
			L	43 14				
			M_N	44 17	2-3	42		
			F	52				
115	25	I_r	eP	15 49 26				
			L	51 53				
			M_N	52 31	3	25		
			F	16 22				
116	25	I_d	eP	20 39 13				
			L	39 27				
			F	41				
117	28	I_r	e	6 59 06				As the Wiechert seismograph was not working regularly this datum has been taken from the Horizontal Pendulums.
			F	7 23				
118	28	I_r	e	12 18 01				Do.
			F	?				
119	28	I_r	e	12 50 ?				Do.
			F	13 53				
120	28	II_d	eP	16 01 41				
			L	01 57				
			M_N	01 59	2	160		
			F	05				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

4, $14^h\ 31^m\ 45^s$* [4, $22^h\ 31^m\ 45^s$]. **Centro de Luzón.** Temblor de tierra de intensidad III, sentido y registrado en el Observatorio de Baguio. Su epicentro se hallaba a poca distancia, probablemente hacia el E en la Provincia de Nueva Vizcaya.

6, $10^h\ 40^m$ [6, $18^h\ 40^m$]. **Santo Domingo** (Islas Batanes). Temblor oscilatorio. Dirección N–S, intensidad II–III, duración 4 segundos.

7, $15^h\ 4^m$ [7, $23^h\ 4^m$]. **S de Samar y NE de Leyte.** Temblor de tierra de intensidad IV. Su epicentro se hallaba al parecer no lejos de la costa S de Sámar, a unos 40 kilómetros de Tacloban y 60 de Guiuan, de donde se recibieron los avisos.

10, $10^h\ 5^m\ 54^s$* [10, $18^h\ 5^m\ 54^s$]. **NE de Mindanao.** Temblor de tierra de intensidad VII–VIII. Su epicentro se hallaba en la parte sudeste de la bahía de Butuan. Las notas recibidas de los pueblos de Tubay y Cabarbaran situados a lo largo de la costa sudeste de dicha bahía, aseguran que tuvo allí muy poca menos intensidad que el gran terremoto del 12 de Julio de 1911, cuyo epicentro estaba lejos al S hacia el centro del valle del Agusan. En la estación de Butuan situada en la orilla occidental del río Agusan y a unos 12 kilómetros de su desembocadura, alcanzó la intensidad del terremoto a VI–VII de la escala; los movimientos susultorios y oscilatorios de grande amplitud y múltiples direcciones causaban la impresión de movimientos rotatorios. Duró el temblor unos 30 segundos. Produjéronse algunas pequeñas grietas en paredes delgadas y otras muchas en el terreno, dirigidas en general de E a W. Es de advertir que el banco W del río Agusan donde se asienta la población de Butuan es terreno aluvial y por consiguiente fácilmente agrietable: parece haber constituído antiguamente una isla del mismo río, y en las crecidas excepcionales del Agusan todavía sus aguas se vierten por un antiguo brazo del W del pueblo. La dirección de las grietas, normal al curso del río, es algo singular, pero concuerda con la posición del epicentro situado hacia el N de la población. Después del terremoto principal hubo en la región epicéntrica multitud de pequeñas repeticiones hasta la madrugada del día 11. Las principales, sentidas también en Butuan, ocurrieron a $18^h\ 26^m$ (tiempo Insular), $19^h\ 9^m$, $19^h\ 47^m$, $20^h\ 15^m$, $2^h\ 9^m$ del 11, y $2^h\ 18^m$. Lo que podemos llamar área meizoséismica de este terremoto donde tuvo intensidad superior al grado V, parece formaba una faja muy estrecha en la dirección N–S a lo largo de la desembocadura del Agusan y de la parte SE de la bahía de Butuan. Así lo indican los datos siguientes: En la población y puerto de Nasipit, unos 30 kilómetros al W, la intensidad de este temblor apenas llegó al grado III. Del lado oriental no hay datos por no existir población alguna de importancia hasta 70 kilómetros de distancia. Hacia el S tuvo aún intensidad III–IV en Talacogon distante unos 70 kilómetros. Hacia el N apenas pasó de intensidad III en Surigao que dista 80 kilómetros. Parece indudable que su origen se debe a movimientos producidos en la fractura o línea seismotectónica que corre a lo largo de todo el valle Agusano y de la bahía de Butuan, descrita en el Boletín de Agosto de 1910. Desde el gran terremoto del 12 de Julio de 1911 han sido frecuentísimos los temblores de tierra originados en diferentes sitios de esta fractura dentro de una longitud aproximada de 160 kilómetros. Es digno de notarse que el temblor de tierra del 10, objeto de esta nota, fué solamente registrado en Manila y Baguio distantes 780 y 990 kilómetros respectivamente, pero no fuera del Archipiélago, siendo así que otros temblores de igual o tal vez menor intensidad, originados en la misma fractura pero más al S en el centro del valle Agusano, suelen registrarse a distancias de 5,000 kilómetros.

[1] La intensidad de los terremotos se indica conforme a la conocidad escala de De Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterico (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo medio de Greenwich (medianoche=O^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

12, $13^h\ 45^m$ [12, $21^h\ 45^m$]. **Santo Domingo** (Islas Batanes). Temblor de tierra susultorio de intensidad IV, acompañado de ruído séismico del grado VI (Davison).

15, $23^h\ 0^m$ [16, $7^h\ 0^m$]. **Santo Domingo** (Islas Batanes). Temblor oscilatorio. Dirección SE–NW, intensidad III, duración 2 segundos.

16, $7^h\ 30^m$ [16, $15^h\ 30^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III.

16, $11^h\ 52^m\ 6^s$* [16, $19^h\ 52^m\ 6^s$]. **Isla de Cuyo.** Temblor oscilatorio. Dirección N–S, intensidad III, duración 4 segundos. La duración de los movimientos preliminares registrados en Manila coloca el epicentro de este temblor al N de la isla, entre Cuyo y Mindoro.

17, $6^h\ 5^m$ [17, $14^h\ 5^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad II–III.

23, $5^h\ 42^m\ 54^s$* [23, $13^h\ 42^m\ 54^s$]. **Baguio** (W de Luzón). Temblor oscilatorio. Dirección E–W, intensidad III, duración 2 segundos.

24, $7^h\ 26^m$ [24, $15^h\ 26^m$]. **Surigao** (NE de Mindanao). Temblor de tierra susultorio. Observáronse dos series distintas de sacudidas de intensidad II–III; duración unos 4 segundos.

31, $13^h\ 19^m$ [31, $21^h\ 19^m$]. **Surigao** (NE de Mindanao). Temblor oscilatorio de intensidad II.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

DEPARTMENT OF THE INTERIOR
WEATHER BUREAU

THE EXTRAORDINARY DROUGHT IN THE PHILIPPINES

OCTOBER, 1911, TO MAY, 1912

BY

REV. JOSÉ CORONAS, S. J.
ASSISTANT DIRECTOR OF THE WEATHER BUREAU

MANILA
BUREAU OF PRINTING
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THE EXTRAORDINARY DROUGHT IN THE PHILIPPINES, OCTOBER, 1911, TO MAY, 1912.

The drought experienced in the Philippines during the eight months from October 1, 1911, to May 31, 1912, has been so extraordinary that there is ground for the assertion that it was the severest ever observed in the Archipelago. Our chief aim in preparing this paper has been to show as clearly as possible, to what extent this statement is true; for which purpose we have made use of all the rain statistics in our possession, which latter, as far as Manila is concerned, cover a period of forty-seven years.

The order of procedure will be to study the drought first with regard to Manila, and then as it affected the various regions of the Philippines.

I. THE DROUGHT IN MANILA, SEVEREST SINCE THE ESTABLISHMENT OF MANILA OBSERVATORY IN 1865.

In the first place we have to say a few words regarding the rainfall at Manila during the eight months under consideration, and then compare it with that of the corresponding period of other years.

From October 1, 1911, to May 31, 1912, only 94.6 millimeters of rain have been collected in the pluviometers of the Central Observatory which gives a monthly average of 11.8 millimeters. In reality the total mentioned was distributed over the eight months as follows: October 9.7 millimeters, November 6.1, December 8.0, January 21.9, February 24.6, March 2.6, April 0.8, May 20.9. With so scanty a rainfall distributed over so many months it is not to be wondered that we had unusually long periods without a drop of precipitation. The following are especially worthy of mention: A period of twenty-four days, from October 24 to November 16; another of twenty-two days, from November 20 to December 11; a third of twenty-five days, from March 19 to April 12; and finally one of twenty-four days, from April 14 to May 7, all dates inclusive. If we prescinded from the insignificant amount of rain (0.1 millimeter) which fell on May 8, there would result a period of thirty-seven rainless days, viz, from April 14 to May 20.

Given these figures, it will be an easy task to show that this drought was the worst experienced since the beginning of Manila Observatory, 1865. The rainfall data of the latter are complete from January 1, 1865, to the present day, and give the following quantities (in millimeters) as the normal precipitation for the respective months: October 189.0, November 130.2, December 61.3, January 27.0, February 10.7, March 18.5, April 32.2, and May 110.7. Hence, during the eight months which are under discussion, the actual rainfall differed from the normal amount for the respective months by the following quantities: October —179.3 millimeters, November —124.1, December —53.3, January —5.1, February +13.9, March —15.9, April —31.4, and May —89.8. Of these differences only one is positive, that for February, showing an excess of the actual rainfall over the corresponding normal value; all the rest indicate a deficiency of precipitation, the most noteworthy being those for October, November, and May. It will, however, be well to remember that in speaking of the climate of the western part of the Archipelago, the month of October is not usually counted among those of the so-called dry season, but belongs rather to the rainy season. This, together with the fact that October, 1911, has been exceptionally dry, accounts for the phenomenon that the monthly rainfall for this month is so very much below the monthly average as deduced from forty-seven years of observations. Something similar may be said of November and May. As these two months form the transition periods from the rainy

to the dry season and vice versa, precipitation is usually less scanty during them than during the remaining months of December, January, February, March, and April.

In order to show still more clearly in how far we are justified in considering the drought of this year as having been most extraordinary, we have not contented ourselves with comparing the rainfall during the last eight months with the corresponding normal amounts, but have made a detailed comparison of the total precipitation for each month with the amounts collected during the same months in each of the forty-seven years from 1865 to 1911. The result has been the following: During the months of October and November there never has been recorded so small an amount of rain as in October and November, 1911. December appears eight times with a smaller quantity than the same month of 1911; while January had twenty times, February forty times, March eight times, April six times, and May five times a scantier total monthly precipitation than the corresponding months of 1912. Hence, had it not been for the great deficiencies of rain during October and November, 1911, this year, while still one of the driest during the entire period, could not have been called one of so exceptional drought as it actually was.

In the following table we offer to the reader statistics which show clearly to what extraordinary and almost incredible an extent the rainfall of the last eight months has been deficient, even if compared with the driest years which Manila has experienced since meteorological records are being kept. The table comprises the following data: (1) The total rainfall during the three months of October, November, and December, for each year from 1865 to 1911; (2) the total rainfall during the five months of January to May, for each year from 1866 to 1912; (3) the total rainfall for the eight months, October to May, for each year of the period under consideration; and finally (4) at the end of the table, the mean or normal amounts of rain for each of the three preceding groups of months.

DISTRIBUTION OF RAINFALL AT MANILA FOR THE MONTHS OCTOBER TO MAY, 1865-1912.

Years.	October to December.	January to May.	October to May.	Years.	October to December.	January to May.	October to May.
	mm.	*mm.*	*mm.*		*mm.*	*mm.*	*mm.*
1865-66	380.9	230.4	611.3	1890-91	480.2	126.3	606.5
1866-67	672.4	243.0	915.4	1891-92	405.3	177.9	583.2
1867-68	362.1	84.0	446.1	1892-93	231.3	243.2	474.5
1868-69	431.7	216.6	648.3	1893-94	187.3	205.4	392.7
1869-70	832.5	325.7	1,158.2	1894-95	393.1	292.1	685.2
1870-71	390.7	40.1	430.8	1895-96	261.3	192.9	454.2
1871-72	338.4	182.7	521.1	1896-97	139.2	96.6	235.8
1872-73	363.4	206.7	570.1	1897-98	338.4	332.7	671.1
1873-74	356.7	76.0	432.7	1898-99	536.9	211.0	747.9
1874-75	198.7	154.0	352.7	1899-1900	450.0	73.5	523.5
1875-76	265.7	256.9	522.6	1900-1	391.4	109.7	501.1
1876-77	181.2	203.6	384.8	1901-2	865.1	94.4	959.5
1877-78	296.3	101.5	397.8	1902-3	198.3	62.4	260.7
1878-79	311.6	329.8	641.4	1903-4	270.0	174.3	444.3
1879-80	550.1	226.9	777.0	1904-5	241.2	201.7	442.9
1880-81	314.9	194.6	509.5	1905-6	212.3	398.7	611.0
1881-82	311.6	240.9	552.5	1906-7	572.8	97.2	670.0
1882-83	602.6	432.6	1,035.2	1907-8	340.3	589.7	930.0
1883-84	237.7	102.8	340.5	1908-9	573.2	253.6	826.8
1884-85	258.3	29.0	287.3	1909-10	426.2	319.9	746.1
1885-86	172.6	158.0	330.6	1910-11	539.9	265.4	805.3
1886-87	516.3	402.5	918.8	1911-12	23.8	70.8	94.6
1887-88	470.0	77.3	547.3				
1888-89	290.5	117.2	407.7	Mean	380.5	200.3	580.8
1889-90	698.3	193.0	891.3				

Even a cursory inspection of the table leads to the following conclusions:

(*a*) The rainfall at Manila for the months October to December, 1911, differs from the normal for these three months by −356.7 millimeters.

(*b*) For the five months, January to May, 1912, this difference amounts to —129.5 millimeters.

(*c*) For the eight months, from October 1, 1911, to May 31, 1912, the total rainfall at Manila remained 486.2 millimeters below the normal amount for this period.

(*d*) The total amount of rain which fell at Manila during October, November, and December, 1911, differs by —115.4 millimeters from the minimum recorded for the same three months during the forty-six years preceding. The said minimum had occurred October to December, 1896, and was 139.2 millimeters. It must further be remarked that only during five other years the rainfall during these months had remained below 200 millimeters. On the other hand, the heaviest rainfalls recorded for these three months in question during the same period, were 832.5 and 865.1 millimeters, corresponding to October–December of 1869 and 1901, respectively.

(*e*) As regards the precipitation at Manila during the five months, January to May, 1912, we find that the amount is not the absolute minimum of rainfall for this group of months during the period, since three years show a still smaller quantity, to wit, 1871, 1885, and 1903.

(*f*) The total rainfall for the eight months, October, 1911, to May, 1912, is, however, 141.2 millimeters below the absolute minimum which had been recorded for these months during the entire period. The latter was 235.8 millimeters, and belongs to the months October, 1896, to May, 1897. Only three times since the establishment of Manila Observatory had the total rainfall corresponding to these eight months been less than 300 millimeters. The greatest total for this group of months was 1,158.2 millimeters and fell from October, 1869, to May, 1870.

It will not be amiss to remark here that, despite the extraordinary scarcity of rain during the last three months of 1911, the total rainfall at Manila for the year (1,717.6 millimeters) differs from the annual normal by only —212.6 millimeters; and we may add that during the period 1865 to 1911 the total yearly precipitation was in thirteen different years less than that for 1911. The smallness of the annual deficiency for 1911 is due to the abundant rains in July and August, 1911, especially in the former month, the total of which (698.5 millimeters) has been exceeded at Manila only four times from 1865 to the present.

The scarcity of rain had a fair share in causing the extraordinarily high temperatures which we suffered during April and May. No less than twenty-seven times within these two months, the daily maximum reached 36°C, the hot spell of sixteen consecutive days (April 20 to May 5) being especially noteworthy. A careful study of the records of Manila Observatory disclosed the fact that since 1880, the year which most resembled the present as to the frequency of maximum temperatures of 36°C or more, was 1889, during which such maxima have been recorded seven times in April and sixteen times in May, a total of twenty-three days. Eleven of these maxima occurred on consecutive days (May 7 to 17). This hot period of 1889 coincided likewise with a scarcity of rain, since not a drop fell during May and only 3.5 millimeters during April.

The absolute maximum of temperature recorded at Manila in April, 1912, was 37.5°C, registered at 3.10 p. m. of the 29th; while for May it was 38.3°C, registered at 3.20 p. m. of the 19th. The latter temperature is identical with the one observed on May 28, 1889, the only occasion during the long period from 1880 to 1911, on which the thermometers of the Observatory reached such height.

II. THE DROUGHT IN VARIOUS REGIONS OF THE PHILIPPINES.

In order to facilitate a full understanding of what we shall say on the dearth of rain during the last eight months in various regions of the Philippines, it will be well to say a few words on the so-called dry and rainy seasons, and in how far this division of the year is applicable to our Archipelago.

In the Treatise on Philippine Climatology published in 1900, we made the following remarks on this subject (see "El Archipiélago Filipino," Vol. II, p. 84) :

> The authors who write on tropical regions in general, usually distinguish very carefully between two seasons: the one dry, lasting from November to May (seven months) ; the other wet or rainy, called also the epoch of rains, which comprises the remaining five months, from June to October.
>
> As regards the Philippines, we must remark at the outset that this division is applicable mainly to the western part of the Archipelago, and nowise to the eastern regions thereof.

Further on (p. 102) the following is added:

> Very different is the monthly distribution of rain on the eastern coasts of the island (Luzon), as is evident from the monthly mean values for Atimonan, Daet, and Albay. In these we are unable to recognize a trace of the two seasons, the rainy and the dry which appeared so clearly defined on the western coasts. We must rather confess that on the former the rains are frequent and sufficiently abundant during every month of the year: in the months of high barometer, on account of the causes mentioned in the beginning of this chapter (to wit, the heavy condensations occasioned by the northeast monsoon which prevails during these months) and in the rest, chiefly owing to the influence of atmospheric perturbations.

Later in the treatise, the same is said regarding the eastern coasts of Mindanao, and the same might be said of the eastern part of Samar.

Those of our readers who desire more detailed information on this question which is of great importance for a full knowledge of Philippine climate, are referred to the pamphlet of Rev. Miguel Saderra Masó, Assistant Director of the Weather Bureau, "The Rainfall in the Philippines" (pp. 14 and 15), in addition to the work mentioned before.

If we were to examine the rainfall records of our stations, we would find that in some of them, as for instance Caraga, Tandag, and Surigao (eastern Mindanao), Borongan (eastern coast of Samar), Gubat and Legaspi (eastern coast of southeastern Luzon), the rains are fairly copious throughout the year, leaving hardly a trace of a dry season. On the contrary, the heaviest precipitation takes place during the months from November to February, that is, precisely at the time when the dry season prevails in the western regions of the Archipelago. In other places, for instance, in the valley of Cagayan and Isabela Provinces (northern Luzon) and at many points in the central Visayan Islands and northern Mindanao, a very short period of dryness can be distinguished, lasting usually from March to May, while the rest of the year forms one long season of rains which are more or less copious accordingly as the region is more or less exposed to the influence of the northeast monsoon from November to February, and of the southwest winds during the typhoon season.

We believe that these brief preliminary indications will suffice to forestall difficulties which otherwise might arise in the minds of our readers while examining the rainfall data for the last eight months given in this paper. They will no longer marvel if in some instances they find that precisely stations with large total amounts of rainfall appear with very considerable negative differences, which in the one or other case even represent the greatest deficiency recorded if compared with the respective normal amounts.

We will now procede to study the drought of this year in the various regions of the Philippines, as we have done regarding the capital. It is perfectly clear that the results which we shall obtain, cannot be by any means so convincing as those for Manila, for the simple reason that the rainfall statistics of the secondary stations cover only a relatively short period of time. In order to make the best of the material on hand, we have selected all those stations whose observations cover at least eight or nine years. As an aid to the reader in judging for himself the relative value and importance of the data we give in the first place a list of the stations selected, together with the island on which

each is situated, and the number of years of observations from which the normal values of the rainfall at each of them have been deduced.

Island.	Station.	Years of observations.
Jolo	Jolo	13
Mindanao	Zamboanga	12
Do	Davao	12
Do	Butuan	8
Do	Surigao	10
Bohol	Tagbilaran	11
Leyte	Maasin	10
Do	Ormoc	11
Cebu	Cebu	16
Panay	Iloilo	14
Do	Capiz	9
Samar	Borongan	10
Do	Calbayog	10
Luzon	Legaspi	11
Do	Nueva Caceres	10
Do	Atimonan	14
Corregidor	San Jose[a] / Fort Mills	9
Luzon	Olongapo[b]	10
Do	San Isidro	21
Do	Tarlac	10
Do	Dagupan	11
Do	Baguio	11
Do	San Fernando, Union	11
Do	Vigan	18
Do	Tuguegarao	12
Do	Aparri	16

[a] Station at San Jose discontinued in 1909; observations continued by volunteer station at Fort Mills, in charge of Artillery Engineer, U. S. Army.

[b] Station discontinued in 1910; observations of last two years kindly furnished by U. S. Naval Station.

It will be noticed that the stations named in the list are tolerably well distributed throughout the Archipelago and, hence, with the aid of the data furnished by them it will not be difficult to form a fairly correct idea of the degree to which the drought under discussion has made itself felt in the various regions of the Philippines.

The method which we will follow is very similar to the one employed in studying the same phenomenon with regard to Manila. We first give in the following table for every one of the stations mentioned in the list (26) the total rainfall during each of the eight months from October, 1911, to May, 1912, side by side with the differences from the normal amounts for the corresponding months. As we believe that this table will prove of considerable interest to the reader, we beg to offer a few remarks concerning it.

The fact that in a series of observations covering so long a period and made at so many different stations positive differences are so very rare is, beyond doubt, a very noteworthy and striking circumstance. If we prescind from the positive signs shown by the differences for the seven stations in northern Luzon during December, there remain only the one or other, certainly well isolated case, which has little or no significance if we consider the long period of eight months and the number of stations. That the rains during December exceeded the normal amount for that month at the stations in northern Luzon was due to a typhoon which, though out of season and abnormal in character, brought beneficial rains to this part of the Archipelago and more particularly to the valleys of Benguet, Isabela, and Cagayan Provinces. The track of this typhoon may be seen in the Monthly Bulletin of the Weather Bureau for December, 1911. The vortex of this storm passed north of and close to Tuguegarao in the evening of December 8.

RAINFALL AT TWENTY-SIX STATIONS OF THE WEATHER BUREAU, OCTOBER, 1911, TO MAY, 1912.

Station.	October.		November.		December.		January.		February.		March.		April.		May.	
	Total.	Departure from normal.	Total.	Departure from normal.	Total.	Departure from normal.	Total.	Departure from normal.	Total.	Departure from normal.	Total.	Departure from normal.	Total.	Departure from normal.	Total.	Departure from normal.
	mm.	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*
Jolo	189.8	— 21.9	134.6?	— 50.9	90.5	— 72.1	73.8	— 26.4	69.4	— 24.8	------	------	[a]103.2	— 5.1	------	------
Zamboanga	17.4	— 84.5	27.2	— 85.4	88.6	— 17.5	90.8	+ 51.5	18.4	— 42	2.3	— 18.1	27.4	— 5.8	60.5	— 7.3
Davao	259.1	+ 9.1	91.9	— 62.8	198.6	— 20.1	155.4	+ 6.8	65.9	— 81.3	38.6	—113.3	268.5	+ 79.9	156.9	— 84.9
Butuan	105.2	— 53.8	154.1	—141.3	247.5	—123.7	96.8	— 91.2	150.6	— 98.5	72.7	— 84.5	97.6	— 7.2	20.5	— 91.9
Surigao	255.8	+ 31.3	175.9	—231.8	390.7	—164.9	233.2	— 98.2	197.7	—205.8	132.5	—143.6	121.1	—130.5	17.8	— 95.3
Tagbilaran	254.6	— 24.4	------	------	32.4	—149.8	4.5	— 84.1	156	+ 38.7	4.6	— 69.5	[b]57.5	—151.7	1.5	—113.5
Maasin	234.8	+ 49	108.6	—182	318.5	— 2.4	73.7	— 61	189.1	— 1	17.5	— 85.1	44.4	— 19.6	0	— 83
Ormoc	142.6	— 84.5	94	—116.9	42.1	—148.6	67.5	—112.3	90.6	— 12.8	8	— 70.1	34.5	— 31.6	4.9	— 66.7
Cebu	110.2	— 71.8	54.6	— 94.2	66.8	— 96.6	25.3	— 71.9	33.8	— 35.8	14.4	— 43.6	25.1	— 9	32.5	— 60
Iloilo	92.5	—133.5	72	—105.8	48.9	— 83.3	8	— 40	11.3	— 17.6	8.4	— 22.1	4.6	— 35.8	12.2	—144
Capiz	154.2	—387.4	73.5	—222	37.2	—262.7	17.3	—129.8	56.1	— 62	17.2	— 8.7	8.4	— 47.1	34.6	—153
Borongan	436.8	+ 85.1	406.9	— 85.7	278.8	—340.5	196.5	—285.5	250.7	—177.1	62.6	—167.6	152.1	— 86.5	32.9	—169.6
Calbayog	152.8	— 93.4	82.3	—182.6	53.8	—223.5	30	—109.7	198.6	+ 18.1	12.7	— 94.3	122	+ 15	23.3	—139.3
Legaspi	94.4	—234.1	184.4	—168.9	71.7	—415.3	77.8	—313.6	252.6	— 57.9	76	—104	105.6	— 64.4	32	— 84.2
Nueva Caceres	45.1	—161.6	44.3	—205.2	42.4	—223.8	[c]1.3	—108	------	------	1	— 59	12.5	— 94	123.7	+ 26
Atimonan	169.9	—195.7	52.3	—418	57.6	—325.3	89.3	—102.5	54.6	— 74.1	25.7	— 56.1	10	— 81.5	57.2	—103.9
Fort Mills	13.3	—176.7	0	— 76.2	5.6	— 41.4	6.6	— 7	4.8	— .6	0	— 7.9	6.4	— 30.2	73.7	— 76.4
Olongapo	58.9	—153	.3	— 72.7	13.7	— 15.8	2.3	— 4.3	0	— 1.4	8.6	+ 3.6	0	— 51.2	15	—226
San Isidro	58.4	—124.8	0	— 97.5	19.8	— 30	5.6	— 10.8	3.9	— 1.6	5.3	— 8.3	12.7	— 20.4	141.5	— 58.2
Tarlac	46.3	—152.9	3.6	— 85.4	29.4	— 16.6	23.8	+ 16.8	18.5	+ 7.9	9.7	— 15.5	49	— 17.9	114.3	— 79.4
Dagupan	137.5	— 66.6	0	— 71.5	30.3	+ 13.4	8.1	— 2.8	8.4	— 11.2	3.8	— 26	10.5	— 55.3	199.5	— 79.9
Baguio	144.6	—345.4	16.8	— 79	276.6	+213.2	2.6	— 25.4	2.9	— 10.3	1	— 39.3	8	—110.6	233.4	—222.1
San Fernando, Union	[c]47.2	— 90.9	0	— 51.3	42.8	+ 32.1	0	— 11	0	— 6.4	3.6	— 5.5	7.6	— 9.7	2.1	—182.7
Vigan	54.1	—108.9	0	— 45.3	33.5	+ 27.2	0	— .2	0	— 1.8	0	— 3.8	0	— 20.8	.5	—116.3
Tuguegarao	21.6	—229.7	26	—259.6	284	+128.3	28.6	+ 8.6	0	— 19.2	5.6	— 26.3	7.4	— 63	149.6	+ 30.5
Aparri	280	— 5.9	36.6	—254.1	353.6	+110.7	185	— 27.9	56.1	— 39.7	15.6	— 32.7	27.6	— 14.4	46.6	— 65.3

[a] 22 days of observation only. [b] 25 days of observation only. [c] 21 days of observation only.

Before proceding farther, we will complete the information contained in the foregoing table by mentioning the longest periods of rainless days observed at each station. They are:

Jolo, 30 days (January 18 to February 16).

Zamboanga, 25 days (March 15 to April 8).

Davao, 18 days (March 11 to 28).

Butuan, 15 days (May 3 to 17).

Surigao, 15 days (May 3 to 17).

Tagbilaran {28 days (January 7 to February 3).
29 days (April 28 to May 26).

Maasin, 46 days (April 16 to May 31).

Ormoc, 11 days {April 15 to 25.
April 29 to May 9.

Cebu, 16 days (May 9 to 24).

Iloilo {34 days (March 8 to April 10).
35 days (April 12 to May 16).

Capiz, 29 days (April 28 to May 26).

Borongan, 9 days (May 19 to 27).

Calbayog, 21 days (March 6 to 26).

Legaspi, 12 days (October 19 to 30).

Nueva Caceres, 22 days (March 20 to April 10).

Atimonan, 15 days (March 3 to 17).

Fort Mills {44 days (October 25 to December 7).
64 days (February 8 to April 11).

Olongapo {62 days (January 14 to March 15).
48 days (March 19 to May 5).

San Isidro, Nueva Ecija {44 days (October 25 to December 7).
41 days (March 19 to April 28).

Tarlac, 36 days (November 2 to December 7).

Dagupan { 43 days (October 26 to December 7).
30 days (December 11 to January 9).
31 days (February 8 to March 9).

Baguio { 36 days (November 2 to December 7).
33 days (December 11 to January 12).

San Fernando, Union { 50 days (October 19 to December 7).
100 days (December 11 to March 19).
35 days (March 21 to April 24).

Vigan { 43 days (October 26 to December 7).
165 days (December 12 to May 24).

Tuguegarao, 43 days (February 1 to March 14).

Aparri, 23 days (March 19 to April 10).

These data show at once that the longest periods of days without rain occurred in western Luzon, and the shortest on the eastern coasts of Samar and Mindanao. Not to be misled, however, we must remember that this was expected to happen, since, on the one hand, western Luzon is the region in which, even in normal years, the dry season is most pronounced, especially during the months of December to March; while, on the other hand, the eastern coasts of Samar and Mindanao have normally during the same months the most persevering and abundant rains of the whole year, as has been stated in the beginning of this chapter. We beg to call special attention to the most extraordinary period of 165 days without rain which afflicted Vigan from December 12, 1911, to May 24, 1912.

In order to show more clearly what conclusions may be drawn from the observations under discussion, we present a second table which gives the following data: (1) The total amount of rain fallen at each of the stations during the eight months from October 1, 1911, to May 31, 1912; (2) the difference of this total and the rainfall during the same period of the preceding year; (3) the normal amount of rain for the 8 months, October to May, deduced from eight, nine, or more years of observations; (4) the difference between the actual rainfall during the eight months in question and the normal amount for the same period.

TOTAL RAINFALL FOR A PERIOD OF EIGHT MONTHS (OCTOBER TO MAY) AT TWENTY-SIX STATIONS OF THE WEATHER BUREAU.

Station.	Total rainfall for 8 months, October, 1911, to May, 1912.	Less than same period last year.	Normal for same period.	Difference from normal.	Station.	Total rainfall for 8 months, October, 1911, to May, 1912.	Less than same period last year.	Normal for same period.	Difference from normal.
	mm.	*mm.*	*mm.*	*mm.*		*mm.*	*mm.*	*mm.*	*mm.*
Jolo[a]	661.3	----------	862.5	— 201.2	Nueva Caceres[b]	270.3	1,465.1	1,095.9	— 825.6
Zamboanga	332.6	----------	541.7	— 209.1	Atimonan	516.6	1,766.4	1,873.7	—1,357.1
Davao	1,234.8	322.2	1,501.4	— 266.6	San Jose }	110.4	449.1	526.8	— 416.4
Butuan	945	817	1,637.1	— 692.1	Fort Mills }				
Surigao	1,524.7	1,320.8	2,563.5	—1,038.8	Olongapo	98.8	753.3	619.6	— 520.8
Tagbilaran[b]	511.1	353.4	1,065.4	— 554.3	San Isidro	247.2	339	598.8	— 351.6
Maasin	986.6	1,525.2	1,371.7	— 385.1	Tarlac	294.6	----------	637.6	— 343
Ormoc	484.2	711.4	1,127.7	— 643.5	Dagupan	398.1	196.1	698	— 299.9
Cebu	362.7	762.8	845.6	— 482.9	Baguio	685.9	366.1	1,304,8	— 618.9
Iloilo	257.9	849.4	840	— 582.1	San Fernando, Union	103.3	165	428.7	— 325.4
Capiz	398.5	1,066.2	1,671.2	—1,272.7	Vigan	88.1	197.9	358	— 269.9
Borongan	1,817.3	1,585.3	3,044.7	—1,227.4	Tuguegarao	522.8	724.9	953.2	— 430.4
Calbayog	675.5	1,317	1,485.2	— 809.7	Aparri	1,001.1	942.9	1,330.4	— 329.3
Legaspi	894.5	1,903.5	2,336.9	—1,442,4					

[a] For six months only.

[b] For seven months only.

On the foregoing table are based the following inferences:

(*a*) For all stations, without an exception, the rainfall for the last eight months, October to May, has been less than the normal for this period, and likewise less than the amount which fell during the same months, 1910 to 1911.

(*b*) Vigan and Olongapo are the only secondary stations which for the last eight months report a total of rainfall below 100 millimeters. It will be remembered that the total amount of rain collected at the Central Observatory likewise failed to reach 100 millimeters. On the other hand, only Davao, Surigao, Borongan, and Aparri had a precipitation exceeding 1,000 millimeters.

(*c*) The total amount of rainfall during the eight months, October to May, fell short of the normal amount for the same period by more than 1,000 millimeters at Surigao, Capiz, Borongan, Legaspi, and Atimonan. All these stations, but especially Surigao and Borongan, are very much exposed to the influence of the northeast monsoon. This is the reason why, despite the strikingly large *negative* differences, Surigao and Borongan still appear among the stations whose rainfall during the period under consideration exceeded 1,000 millimeters, as stated in the preceding paragraph.

(*d*) The smallest differences (—201.2 and —209.1 millimeters, respectively) correspond to the two southernmost stations in the Archipelago, Jolo and Zamboanga.

(*e*) It would seem that we may safely assert that the regions which must have least felt the effects of the drought, were, generally speaking, the southern part of Mindanao and the towns situated close to the northeastern and southeastern coasts of Luzon and to the eastern coasts of Samar and Mindanao.

The question which arises next is: Are we justified in asserting with regard to the entire Philippines what we said concerning the extraordinary drought through which we have just passed at Manila, to wit, that it was the worst ever experienced since rainfall statistics are being kept at Manila Observatory? We must confess that a number of stations have had drier years than the present, the fact notwithstanding that the observations cover only a relatively short period of years. Of the twenty-six stations which we have selected for the present investigation, no fewer than eight appear on our records once or even oftener with amounts of rain for the months October to May, which fall short of those for October, 1911, to May, 1912. In the belief that these details will be welcome to the reader, we give the list of these stations, adding after each the years and the amount of rain which fell during the eight months in question.

Davao, 1902–3, 803.0 millimeters.

Surigao, 1902–3, 1,492.5 millimeters.

Maasin {1902–3, 618.1 millimeters.
1904–5, 682.1 millimeters.

Zamboanga, 1907–8, 190.0 millimeters.

San Fernando, Union, 1902–3, 78.8 millimeters.

Vigan {1890–91, 57.0 millimeters.
1893–4, 17.0 millimeters.

Tuguegarao {1881–82, 420.5 millimeters.
1904–5, 341.2 millimeters.

Aparri {1886–7, 93.7 millimeters.
1902–3, 738.6 millimeters.
1904–5, 595.4 millimeters.
1908–9, 950.5 millimeters.

We call special attention to the extraordinarily insignificant amount of 17 millimeters which fell at Vigan during the eight months, October, 1893, to May, 1894.

As regards the remaining eighteen stations, it is certain that the drought of 1911 to 1912 was the severest experienced by them during the period of years for which observations are available from each.

Before concluding this paper we desire to call the attention of our readers to the great contrast which is found at many stations on Luzon Island between the most extraordinary dearth of rain during the months October and November, 1911, and the

copious precipitation during the last three months preceding them, especially during July. In the first chapter we gave the particulars regarding Manila. Similar instances might be adduced from places close to the capital. But the contrast was especially pronounced to the north of Manila, whence it results that the rainfall for 1911 was everywhere or nearly everywhere, greater than the yearly normal amount and at many stations even the greatest during the entire period covered by observations. Thus, at Vigan, the total amount for 1911 was 4,696.8 millimeters, while the normal rainfall for that station is only 2,338.4 millimeters; similarly at Dagupan the yearly total was 3,352.7 millimeters, the normal amount not exceeding 2,492.8 millimeters.

While we omit other cases in order not to make this paper unduly long, we can not refrain from mentioning what occurred at Baguio, as attested by the automatic records and direct observations made at Mirador Observatory with rain gauges mounted in the observatory park at an elevation of 1,511 meters above sea level. Despite the small amount of 144.6 millimeters of rain collected during October, and of only 16.8 millimeters which fell in November, the annual total for 1911 reached 9,038.3 millimeters. Now, the normal rainfall for the place, deduced from the data for the ten years during which observations have been made on the Baguio Plateau, is only 4,477.8 millimeters, and the greatest annual total observed during the period 1902 to 1910 was 4,575.7 millimeters which fell during 1908. We must further remark that in deducing the normal of 4,477.8 millimeters we included the rainfall during 1911, without which the mean or normal would be only 3,971.1 millimeters. We beg to remind the reader of what we stated in the Monthly Bulletin for July, 1911, viz, that during the said month alone there fell at Baguio 3,381.7 millimeters of rain, no less than 2,238.7 millimeters being collected in four days, July 14 to 17.[1] During August the rainfall reached 2,521.7 millimeters, and 1,703.2 millimeters in September (see Bulletins for these months).

Finally it must be borne in mind that, just as the copious rains of July, August, and even of September were owing to the numerous typhoons which at that time influenced the Philippines, so the dearth of rain during October, November, and December must be attributed to the well-nigh absolute lack of depressions and typhoons in the Philippines or their vicinity, as has been pointed out repeatedly in the Monthly Bulletins for July to December, 1911.

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[1] As a curiosity we mention that, as far as we are aware, there are only two instances known in which the torrential rains of four consecutive days exceeded this rainfall at Baguio. Both occurred likewise at stations of great elevations, the one at Cherrapunji in the Khasi Mountains, India; the other at a place called Silver Hill, in the mountains of eastern Jamaica.

The rains at Cherrapunji referred to, occurred from June 12 to 15, 1876, and the total amount of 2,586.7 millimeters (101.84 inches) was distributed over the four days as follows: June 12, 773.4 millimeters (30.45 inches); June 13, 196.8 millimeters (7.75 inches); June 14, 1,036.3 millimeters (40.80 inches); and June 15, 580.1 millimeters (22.84 inches). We are indebted for these particulars to the director-general of observatories, India, who, replying to an inquiry, assured us that these figures represent the absolute maximum of rainfall for four consecutive days and for twenty-four hours, respectively, observed at Cherrapunji from 1871 to 1911. There are no records antedating 1871.

To facilitate comparison between these rains and those at Baguio from July 14 to 17, 1911, we remind the reader that the distribution of the latter was as follows: July 14, 879.8 millimeters (34.64 inches); July 15, 733.6 millimeters (28.88 inches); July 16, 424.9 millimeters (16.73 inches); and July 17, 200.4 millimeters (7.89 inches).

The second instance of most extraordinary rains occurred at Silver Hill in November 1909. According to the "Scientific American", 2,451.1 millimeters (96.50 inches) fell in four days and on two days 1,460.5 millimeters (57.50 inches). That these figures are at least approximately correct is indicated by the records of the nearest stations.

SEQUIA EXTRAORDINARIA EN FILIPINAS, OCTUBRE 1911 A MAYO 1912.

La sequía observada en Filipinas durante los ocho meses comprendidos desde el 1.º de Octubre de 1911 hasta el 31 de Mayo de 1912, ha sido tan extraordinaria que con razón se ha dicho ser una de las peores y aun acaso la peor que jamás se había observado en este Archipiélago. Es nuestro principal objeto al preparar este *report* hacer ver con la mayor claridad que nos sea posible, hasta qué punto sea verdad este aserto, valiéndonos para ello de las estadísticas de lluvia que obran en nuestro poder, las cuales, por lo que toca a Manila, se extienden a un período de cuarenta y siete años.

Para proceder con algún orden estudiaremos la sequía primero en Manila, y después en las diferentes regiones de Filipinas.

I. LA SEQUÍA EN MANILA: LA PEOR DESDE LA FUNDACIÓN DEL OBSERVATORIO EN 1865.

Ante todo digamos algo sobre la lluvia caída en Manila durante los ocho meses de referencia para que luego la podamos comparar con la correspondiente a los mismos meses de otros años. Desde el 1.º de Octubre de 1911 hasta el 31 de Mayo de 1912, solamente se han recogido en nuestros pluviómetros 94.6 mm. de agua, lo cual da un promedio mensual de 11.8 mm. Este total de lluvia en milímetros se distribuyó en los ocho meses en la forma siguiente: Octubre 9.7, Noviembre 6.1, Diciembre 8.0, Enero 21.9, Febrero 24.6, Marzo 2.6, Abril 0.8, y Mayo 20.9. Con lluvias tan escasas por espacio de tantos meses no es de extrañar que hayamos tenido períodos extraordinariamente largos sin absolutamente nada de lluvia. Son dignos de especial mención los siguientes: un período de veinticuatro días desde el 24 de Octubre al 16 de Noviembre ambos inclusive; otro de veintidós días, del 20 de Noviembre al 11 de Diciembre; otro de veinticinco días, del 19 de Marzo al 12 de Abril; y otro de veinticuatro días, desde el 14 de Abril hasta el 7 de Mayo. Y aun si prescindiésemos de la cantidad insignificante de agua recogida el día 8 de Mayo, que no fué más de 0.1 mm., tendríamos un período de treinta y siete días sin lluvia, desde el 14 de Abril hasta el 20 de Mayo.

Poco nos costará ahora hacer ver que esta sequía de Manila es la mayor que ha ocurrido desde la fundación de este Observatorio en 1865. Las estadísticas de lluvia que poseemos son completas desde el 1.º de Enero de dicho año 1865 hasta el presente. Según ellas, los valores normales en milímetros para cada uno de los meses de Octubre a Mayo son los siguientes: Octubre 189.0, Noviembre 130.2, Diciembre 61.3, Enero 27.0, Febrero 10.7, Marzo 18.5, Abril 32.2 y Mayo 110.7. De donde tenemos que la lluvia de este último año correspondiente a estos mismos meses se diferencia de la normal respectiva en estas cantidades: Octubre —179.3, Noviembre —124.1, Diciembre —53.3, Enero —5.1, Febrero +13.9, Marzo —15.9, Abril —31.4, y Mayo —89.8. Solo tenemos una diferencia positiva, y es la correspondiente al mes de Febrero: las demás son negativas. Y de estas diferencias negativas las más notables son las de Octubre, Noviembre y Mayo. Desde luego será bueno tener presente que en la llamada estación seca (tratándose del clima de la parte occidental de Filipinas) no se suele incluir el mes de Octubre, sino que más bien se le considera incluído en la estación de lluvias: de ahí que habiendo sido tan seco Octubre de 1911, la lluvia mensual de este mes resulte tan inferior a la normal deducida de cuarenta y siete años de observación. Algo parecido podría decirse de los meses de Noviembre y Mayo, en cuanto que hallándose por decirlo así estos meses en el límite entre la estación de lluvias y la estación seca, la precipitación acuosa no suele

ser en ellos tan escasa como en los meses restantes de Diciembre, Enero, Febrero, Marzo y Abril.

Con el fin de ver todavía con más claridad hasta qué punto debe considerarse por muy extraordinaria la sequía de este año, no contentos con comparar la lluvia de los últimos ocho meses con las normales respectivas, hemos hecho una comparación detenida de la misma con cada una de las cantidades de agua recogidas en los mismos meses en el largo período de cuarenta y siete años 1865–1911. Según esta comparación, hallamos que ni en Octubre ni en Noviembre jamás se había registrado un total de lluvia tan pequeño como en Octubre y Noviembre de 1911. Sin embargo, Diciembre aparece ocho veces con una lluvia menor que la de este último año, Enero veinte veces, Febrero cuarenta veces, Marzo ocho veces, Abril seis veces y Mayo cinco veces. De donde creemos poder asegurar, que si no hubiese sido por la falta de lluvia tan notable de Octubre y Noviembre de 1911, aunque todavía podría contarse este año entre los más secos de todo el período, con todo no se podría tener esta sequía por tan excepcional como ha sido en efecto.

Vamos ahora a ofrecer a nuestros lectores en una tabla (véase el texto inglés) las siguientes estadísticas que hacen ver de la manera más convincente cómo la lluvia de estos últimos ocho meses es inferior, pero en un grado bien extraordinario y casi increíble, aun con respecto a los años más secos que ha habido en Manila a partir de 1865. En dicha tabla damos: (1) La suma total de lluvia de los tres meses Octubre, Noviembre y Diciembre para cada uno de los años del período 1865–1911; (2) la suma total de lluvia de los cinco meses siguientes Enero, Febrero, Marzo, Abril y Mayo para cada uno de los años del período 1866–1912; (3) la suma total de lluvia de los ocho meses completos desde Octubre hasta Mayo, también para cada año del período que venimos estudiando; (4) por último, al pie de la tabla la media o valor normal deducido de cuarenta y siete años de observación para los tres meses Octubre a Diciembre; para los cinco meses Enero a Mayo; y para todos los ocho meses Octubre a Mayo.

De la sola vista de esta tabla pueden deducirse las siguientes conclusiones:

(*a*) La lluvia caída en Manila de Octubre a Diciembre de 1911 difiere de la normal de estos tres meses en —356.7 mm.

(*b*) La lluvia caída en Manila de Enero a Mayo de 1912 difiere de la normal de estos cinco meses en —129.5 mm.

(*c*) La lluvia caída en Manila en todos los ocho meses, desde el 1.° de Octubre, 1911, hasta el 31 de Mayo, 1912, difiere de la normal de estos ocho meses en —486.2 mm.

(*d*) La lluvia caída en Manila en los tres meses de Octubre a Diciembre de 1911 difiere de la mínima cantidad de lluvia que para los mismos meses se había observado en todo el período de cuarenta y siete años, en —115.4 mm. Dicha mínima cantidad de lluvia es 139.2 mm. y corresponde a los meses de Octubre a Diciembre de 1896, siendo de notar, además, que en los cuarenta y siete años solo cinco veces más fué la lluvia de estos tres meses menor de 200 mm. Las máximas de todo el período fueron 832.5 y 865.1 mm. y corresponden a Octubre-Diciembre de 1869 y 1901.

(*e*) Por lo que toca a la lluvia caída en Manila en los cinco meses Enero a Mayo, 1912, tenemos que dicha cantidad no es absolutamente la menor de todo el período, sino que ha habido tres menores todavía, es decir, las de 1871, 1885 y 1903.

(*f*) La lluvia total de los ocho meses, Octubre 1911–Mayo 1912, difiere de la mínima cantidad de lluvia que para los mismos meses se había observado en todo el período, en —141.2 mm. Dicha mínima cantidad es 235.8 mm. y corresponde a los meses Octubre 1896 a Mayo 1897. Solamente tres veces desde la fundación del Observatorio la lluvia correspondiente a estos ocho meses había sido menor de 300 mm. La máxima de todo el período fué 1,158.2 mm. y corresponde a Octubre 1869–Mayo 1870.

No será por demás advertir aquí que, a pesar de la falta de lluvia tan extraordinaria de los tres últimos meses de 1911, con todo, la cantidad de lluvia en Manila para todo el

año 1911 (1,717.6 mm.) solo se diferencia de la normal en —212.6 mm., y aun podemos añadir que en el período 1865–1911 la suma anual de lluvia fué en trece ocasiones menor que la de 1911. Esto debe atribuirse a las lluvias abundantes que tuvimos en Julio y Agosto, y más principalmente en Julio. La cantidad de agua caída en este último mes (698.5 mm.) solamente ha sido superada cuatro veces en Julio desde 1865 hasta el presente.

Por último, esta falta de lluvia tuvo buena parte en las máximas temperaturas tan extraordinarias que hemos tenido en Manila en los meses de Abril y Mayo. Hasta veintisiete ha llegado el número de veces en que la temperatura máxima diaria de estos dos meses ha sido 36° C o más de 36° C, siendo mucho de notar el período de diez y seis días consecutivos con tales máximas diarias, es decir, desde el 20 de Abril hasta el 5 de Mayo, ambos inclusive. Examinando con cuidado las estadísticas de este Observatorio, hallamos que desde 1880 el año que más se parece al presente en el número crecido de días con temperaturas máximas de 36° C o más, fué el de 1889 en que se registraron tales temperaturas siete veces en Abril y diez y seis en Mayo, total veintitres veces. De éstas, once fueron en días consecutivos, del 7 al 17 de Mayo, ambos inclusive. Coincidió también este período de calor de 1889 con falta de lluvia, pues ésta fué nula en el mes de Mayo, y en el de Abril solo se recogieron en los pluviómetros 3.5 mm. de agua.

La temperatura mayor del mes de Abril de este año 1912 ha sido 37.5° C, registrada a las 3.10 p. m. del día 29; y la del mes de Mayo, 38.3°C, registrada a las 3.20 p. m. del día 19. Esta máxima del mes de Mayo es idéntica a la observada el 28 de Mayo de 1889, única vez en el largo período de 1880–1911 en que los termómetros del Observatorio habían alcanzado una lectura tan alta.

II. LA SEQUIA EN DIFERENTES REGIONES DE FILIPINAS.

Para mejor inteligencia de lo que vamos a decir sobre la falta de lluvia observada en las diferentes regiones de Filipinas durante los ocho últimos meses, bueno será que digamos dos palabras sobre las llamadas época de lluvias y época de secas, o estación lluviosa y estación seca, en cuanto esta división es aplicable a nuestro Archipiélago.

En el tratado de Climatología de Filipinas publicado en 1900 decíamos lo siguiente refiriéndonos a este particular (Véase El Archipiélago Filipino, Vol. II, pág. 84) :

> Los autores que hablan en general de las regiones intertropicales suelen distinguir con mucho cuidado dos estaciones: una seca, que dura desde Noviembre a Mayo ambos inclusive (siete meses), y otra húmeda y lluviosa, denominada también época de lluvias, que corresponde a los otros cinco meses de Junio a Octubre, ambos inclusive.
>
> Por lo que toca a Filipinas, hay que advertir desde luego que esta división es aplicable principalmente a la parte occidental del Archipiélago, pero en ninguna manera a las regiones orientales.

Y algo más abajo (pág. 102) añadíamos:

> Muy diferente es la distribución mensual de la lluvia en las costas orientales de la isla (de Luzón), según se ve por los valores medios mensuales de Atimonan, Dáet y Albay. En ellas no podemos reconocer de ningún modo las dos estaciones seca y lluviosa que tan claramente deslindadas han aparecido en las costas occidentales. Antes bien hemos de confesar que son allí las lluvias bastante frecuentes y abundantes en todos los meses del año; en los meses de altas presiones, por las razones apuntadas al principio de este capítulo (grandes condensaciones debidas a la monzón del NE. predominante en aquellos meses), y en los demás por influencia principalmente de perturbaciones atmosféricas.

Más tarde se dice lo mismo de las costas orientales de Mindanao, y lo mismo podría decirse de la región oriental de la isla de Sámar.

Si se desean más detalles sobre esta materia tan importante para conocer bien el clima de Filipinas, pueden consultar nuestros lectores, además de la obra citada, el folleto del P. Saderra Masó, S. J., "The Rainfall in the Philippines," páginas 14 y 15.

Examinando con cuidado las estadísticas de lluvia de nuestras estaciones, hallaríamos que en algunas de ellas como Caraga, Tándag y Surigao (región oriental de Mindanao), Borongan (región oriental de Sámar), Gúbat y Legaspi (región oriental en la

parte sudeste de Luzón), las lluvias son bastante abundantes en todo el año, sin rastro apenas de estación seca. La mayor precipitación, sin embargo, tiene lugar en los meses de Noviembre a Febrero, o sea, cuando predomina la estación seca en las regiones occidentales del Archipiélago. En otras regiones, como por ejemplo en el valle de las provincias de Cagayán e Isabela (norte de Luzón), y en muchos puntos de la parte central de las islas Visayas y del norte de Mindanao, se distingue un período muy corto de estación seca que suele durar de Marzo a Mayo, constituyendo lo restante del año una prolongada estación de lluvias más o menos abundantes, según que una región esté más o menos expuesta a la influencia de la monzón del NE en los meses de Noviembre a Febrero, y a los vientos del SW en los meses de baguios.

Creemos que estas ligeras indicaciones bastarán para que nuestros lectores puedan hacerse cargo fácilmente de los datos que vamos a publicar sobre la lluvia de los ocho últimos meses. Con estos antecedentes no se extrañarán ya de que, en algunos casos, estaciones que nos dan totales absolutos de lluvia bastante considerables sean precisamente las que aparecen con unas diferencias negativas muy notables, y aun acaso las mayores, al comparar dichos totales con las normales respectivas.

Vamos, pues, a estudiar ya la sequía de este año en las diferentes regiones de Filipinas, tal como lo hemos hecho para la capital. Claro está que los resultados que obtengamos no podrán ser ni de mucho tan contundentes como lo han sido para Manila, por la sencilla razón de que las estadísticas de lluvia de otras estaciones comprenden solamente un número de años relativamente pequeño. A fin de sacar el mejor partido posible de los datos que poseemos, hemos escogido aquellas estaciones, de las cuales contamos cuando menos con ocho o nueve años de observación. Para que nuestros lectores puedan más fácilmente comprender la importancia y el valor de los datos que vamos a publicar indicaremos ante todo las estaciones escogidas, las islas a que corresponden y el número de años de observación, de los cuales se han deducido los valores normales de cada una.

Isla.	Estación.	Años de observación.
Joló	Joló	13
Mindanao	Zamboanga	12
Id	Dávao	12
Id	Butúan	8
Id	Surigao	10
Bohol	Tagbilaran	11
Leyte	Maasin	10
Id	Ormoc	11
Cebú	Cebú	16
Panay	Iloilo	14
Id	Cápiz	9
Samar	Borongan	10
Id	Calbáyog	10
Luzón	Legaspi	11
Id	Nueva Cáceres	10
Id	Atimonan	14
Corregidor	San José[a] / Fort Mills	9
Luzón	Olongapó[b]	10
Id	San Isidro	21
Id	Tárlac	10
Id	Dagupan	11
Id	Baguio	11
Id	San Fernando, Unión	11
Id	Vigan	18
Id	Tuguegarao	12
Id	Aparri	16

[a] La estación de San José se cerró en 1909. Las observaciones han sido continuadas en la estación de Fort Mills al cargo del Ingeniero de Artillería.

[b] La estación del Weather Bureau se cerró en 1910. Las observaciones de los dos últimos años han sido facilitadas por la Estación Naval de los Estados Unidos.

Como se ve, estas estaciones están bastante bien distribuídas por todo el Archipiélago, y así creemos que con los datos que ellas nos van a suministrar no será cosa difícil formarnos una idea bastante aproximada de la intensidad con que se ha sentido la sequía que venimos estudiando, en las diferentes regiones de Filipinas.

El método que vamos a seguir será casi el mismo que hemos seguido para estudiar esta sequía en Manila. En primer lugar, ofrecemos en una tabla, que verán nuestros lectores en el texto inglés, el total de lluvia recogido en cada uno de los ocho meses Octubre de 1911 a Mayo de 1912 y para cada una de las estaciones arriba mencionadas. Al lado de estos totales va la diferencia de los mismos comparados con la normal respectiva de cada mes. Creemos que esta tabla ha de ser de sumo interés para nuestros lectores, y así haremos algunas observaciones sobre la misma.

Es sin duda un hecho notable y muy digno de llamar la atención las poquísimas veces que aparecen diferencias positivas en una serie tan larga de observaciones. Y si prescindimos de los signos positivos de Diciembre para las siete estaciones en el norte de Luzón, todos los demás puede decirse que no son más que alguno que otro y por cierto bien aislado, y por lo tanto de poca o ninguna significación para todo el conjunto de ocho meses y de veintiseis estaciones. El que la lluvia de Diciembre resulte sobre la normal para las estaciones situadas en el norte de Luzón fué debido a un baguio que, aunque extemporáneo y anormal, fué causa de la benéfica lluvia que cayó aquel mes en dicha parte de nuestro Archipiélago y más particularmente en los valles de Benguet, Isabela y Cagayán (véase la trayectoria de este baguio en el Boletín mensual de Diciembre de 1911: el vórtice pasó muy cerca por el norte de Tuguegarao la tarde del día 8).

Antes de pasar adelante, completaremos la información contenida en la tabla anterior indicando los períodos más largos de días sin lluvia que se han observado en cada una de las veintiseis estaciones escogidas para este estudio. Son como siguen:

Joló, 30 días (18 Enero a 16 Febrero).
Zamboanga, 25 días (15 Marzo a 8 Abril).
Dávao, 18 días (11 a 28 Marzo).
Butúan, 15 días (3 a 17 Mayo).
Surigao, 15 días (3 a 17 Mayo).
Tagbilaran { 28 días (7 Enero a 3 Febrero).
29 días (28 Abril a 26 Mayo).
Maasin, 46 días (16 Abril a 31 Mayo).
Ormoc, 11 días { (15 a 25 Abril).
(29 Abril a 9 Mayo).
Cebú, 16 días (9 a 24 Mayo).
Iloílo { 34 días (8 Marzo a 10 Abril).
35 días (12 Abril a 16 Mayo).
Cápiz, 29 días (28 Abril a 26 Mayo).
Borongan, 9 días (19 a 27 Mayo).
Calbáyog, 21 días (6 a 26 Marzo).
Legaspi, 12 días (19 a 30 Octubre).
Nueva Cáceres, 22 días (20 Marzo a 10 Abril).
Atimonan, 15 días (3 a 17 Marzo).
Fort Mills { 44 días (25 Octubre a 7 Diciembre).
64 días (8 Febrero a 11 Abril).
Olongapó { 62 días (14 Enero a 15 Marzo).
48 días (19 Marzo a 5 Mayo).
San Isidro, Nueva Écija { 44 días (25 Octubre a 7 Diciembre).
41 días (19 Marzo a 28 Abril).
Tárlac, 36 días (2 Noviembre a 7 Diciembre).

Dagupan { 43 días (26 Octubre a 7 Diciembre).
30 días (11 Diciembre a 9 Enero).
31 días (8 Febrero a 9 Marzo).

Baguio { 36 días (2 Noviembre a 7 Diciembre).
33 días (11 Diciembre a 12 Enero).

San Fernando Unión { 50 días (19 Octubre a Diciembre 7).
100 días (11 Diciembre a 19 Marzo).
35 días (21 Marzo a 24 Abril).

Vigan { 43 días (26 Octubre a 7 Diciembre).
165 días (12 Diciembre a 24 Mayo).

Tuguegarao, 43 días (1 Febrero a 14 Marzo).

Aparri, 23 días (19 Marzo a 10 Abril).

Desde luego se echará de ver en estos datos que los períodos más largos de días sin lluvia se observaron en la parte occidental de Luzón, y los más cortos en las costas orientales de Sámar y Mindanao. Sin embargo, téngase presente que naturalmente debía suceder así si se tiene en cuenta que la parte occidental de Luzón es donde más marcada se presenta la época seca aun en años normales, especialmente en los meses de Diciembre a Marzo: y al revés, en las costas orientales de Sámar y Mindanao es donde tienen lugar en los mismos meses las lluvias más constantes y abundantes de todo el año, según se ha indicado arriba. Nótese como verdaderamente extraordinario el período de 165 días ocurrido en Vigan desde el 12 de Diciembre hasta el 24 de Mayo.

Para que se vea ahora con más claridad las conclusiones que se pueden sacar de las observaciones que venimos estudiando, hemos formado otra tabla que podrán ver nuestros lectores en el texto inglés, en la cual incluimos los siguientes datos: (1) La suma total de lluvia caída en cada estación en todo el período de ocho meses desde 1.º de Octubre de 1911 a 31 de Mayo de 1912; (2) la diferencia de este total de lluvia comparado con el del mismo período del año anterior; (3) la normal para el mismo período de ocho meses (Octubre a Mayo), según la hemos podido deducir de 8, 9 o más años de observación; (4) la diferencia de la suma total de dichos meses para este último año comparada con la normal.

De esta tabla se deduce lo siguiente: (*a*) En todas las estaciones sin excepción ninguna la cantidad de agua caída en los ocho meses de Octubre a Mayo últimos es menor que la normal para el mismo período y menor también que la caída el año pasado en los mismos meses.

(*b*) Vigan y Olongapó son las únicas estaciones que nos dan un total de lluvia para los ocho meses últimos, menor de 100 mm. Recuérdese que también para Manila dimos un total menor de 100 mm. Davao, Surigao, Borongan y Aparri son las únicas estaciones que nos dan un total mayor 1000 mm.

(*c*) La lluvia total de los ocho meses Octubre a Mayo de este último año es menor que la normal en más de 1000 mm. para las estaciones de Surigao, Capiz, Borongan, Legaspi y Atimonan. Todas son estaciones bien expuestas a la influencia de la monzón del NE, pero más particularmente Surigao y Borongan. De ahí que, a pesar de estas diferencias *negativas* tan notables, sean Surigao y Borongan dos de las cuatro estaciones que aparecen con una cantidad absoluta de agua mayor de 1000 mm. para los meses de referencia de este año último, según se ha dicho arriba.

(*d*) Las diferencias menores (—201.2 y —209.1 mm.) corresponden a las dos estaciones más meridionales de nuestro Archipiélago, es decir Joló y Zamboanga.

(*e*) En general parece poder asegurarse que las regiones que menos deben haber sufrido los efectos de la sequía de este año último son la parte meridional de la isla de Mindanao y los pueblos próximos a las costas del nordeste y sudeste de Luzón y del este de Sámar y Mindanao.

Hechas estas breves observaciones, ocurre ahora preguntar: ¿puede decirse de todo Filipinas lo que dijimos de Manila tocante a lo extraordinario de la pasada sequía, asegurando que era la más notable observada desde que empezaron las estadísticas de lluvia de este Observatorio? Desde luego hemos de confesar que en algunas estaciones ha habido otros años más secos que el presente, a pesar de que contamos con un número relativamente corto de años de observación. De las veintiseis estaciones que hemos tomado para este estudio hallamos que ocho aparecen en nuestras estadísticas una o más veces con una cantidad de lluvia para los meses de Octubre a Mayo menor que para el último período de Octubre de 1911 a Mayo de 1912. Creemos será de interés que mencionemos aquí en particular estos casos consignando los años en que tuvieron lugar y la cantidad de lluvia caída en los ocho meses de que hablamos. Son como siguen:

Dávao, 1902–3, 803.0 milímetros.

Surigao, 1902–3, 1,492.5 milímetros.

Maasin { 1902–3, 618.1 milímetros.
1904–5, 682.1 milímetros.

Zamboanga, 1907–8, 190.0 milímetros.

San Fernando, Unión, 1902–3, 78.8 milímetros.

Vigan { 1890–91, 57.0 milímetros.
1893–4, 17.0 milímetros.

Tuguegarao { 1881–2, 420.5 milímetros.
1904–5, 341.2 milímetros.

Aparri { 1886–7, 93.7 milímetros.
1902–3, 738.6 milímetros.
1904–5, 595.4 milímetros.
1908–9, 950.5 milímetros.

Nótese la cantidad extraordinariamente insignificante de 17 mm. de agua recogida en Vigan durante los ocho meses de Octubre de 1893 a Mayo de 1894.

Por lo que toca a las demás diez y ocho estaciones y para el período de años indicado más arriba para cada una de ellas, es cierto que corresponde a este último año la mayor sequía de todo el período.

Antes de terminar este escrito llamamos la atención de nuestros lectores sobre el gran contraste que se nota en muchas estaciones de la isla de Luzón entre la falta extraordinaria de lluvia de los meses Octubre y Noviembre de 1911 y la abundante precipitación de los tres meses anteriores, y muy particularmente del mes de Julio. Ya indicamos en la primera parte de este report lo observado en Manila sobre este particular. Ejemplos parecidos podríamos citar de otros puntos próximos a Manila: pero al norte de Manila el contraste fué todavía mayor, y de ahí que la suma total de lluvia para 1911 resulte en todas o casi en todas partes mayor que la normal, y en muchas estaciones la mayor de todo el período. Así, por ejemplo, la lluvia anual de Vigan para 1911 es 4696.8 mm., siendo así que la normal para dicha estación es solamente 2338.4 mm.; la de Dagupan es 3352.7 mm., cuando la normal no pasa de 2492.8 mm.

Omitimos otros casos por no alargarnos demasiado. Con todo, no podemos pasar en silencio lo ocurrido en Baguio, según consta de las observaciones hechas en nuestro Observatorio de Mirador con pluviómetros colocados a una altura de 1511 metros sobre el nivel del mar. A pesar de que en Octubre solamente se recogieron 144.6 mm. de agua, y en Noviembre 16.8 mm., sin embargo, la suma anual de lluvia de 1911 es 9038.3 mm. Ahora bien, la normal para dicha estación deducida de los diez años que cuenta de existencia aquel Observatorio es 4477.8 mm., y la mayor suma anual que se había observado hasta ahora desde 1902 había sido 4575.7 mm. correspondiente a 1908. Y aun debe tenerse presente que dicha normal 4477.8 mm. se ha deducido incluyendo el año 1911 de referencia entre los sumandos que nos han servido para obtener el valor promedio. La

normal o media que teníamos antes de incluir este último año tan anormal era solamente 3971.1 mm. Recuérdese lo que dijimos en el Boletin meteorológico del mes de Julio de 1911, es decir, que solamente en dicho mes cayeron en Baguio 3381.7 mm. y que en solos cuatro días de dicho mes (del 14 al 17) se recogieron 2238.7 mm. de agua.[1] La lluvia de Agosto ascendió a 2521.7 mm. y la de Septiembre a 1703.2 mm. (Véanse los boletines correspondientes a estos meses.)

Por último, merece tenerse en cuenta que así como las lluvias abundantes de Julio y Agosto, y aun las de Septiembre, fueron debidas a los muchos tifones que en dichos meses influyeron en Filipinas, así por el contrario la falta de lluvia de Octubre, Noviembre y Diciembre debe atribuirse a la casi ausencia absoluta de depresiones o tifones en o cerca de Filipinas. Consulten nuestros lectores a este efecto lo que dijimos en los boletines correspondientes de Julio a Diciembre, 1911.

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[1] Como dato curioso, citaremos que solamente nos consta de dos casos de lluvias torrenciales en cuatro días consecutivos que hayan superado esta lluvia de Baguio. Estos casos ocurrieron en estaciones también muy elevadas sobre el nivel del mar, como Cherrapunji, en los montes Khasi de la India, y Silver Hill, en las montañas orientales de Jamaica. Las lluvias a que nos referimos tuvieron lugar en Cherrapunji del 12 al 15 de Junio de 1876 ambos inclusive. La cantidad de agua caída en estos cuatro días asciende a 2586.7 mm. (101.84 pulgadas) distribuída en esta forma: día 12, 773.4 mm. (30.45 pulgadas); día 13, 196.8 mm. (7.75 pulgadas); día 14, 1036.3 mm. (40.80 pulgadas); día 15, 580.1 mm. (22.84 pulgadas). Agradecemos estos datos al Director General del Observatorio de la India, quien contestando a una carta nuestra nos asegura que este es el período de mayor lluvia para cuatro días y para veinticuatro horas observado en Cherrapunji desde 1871 hasta 1911. No se tienen registros anteriores a 1871.

Para que nuestros lectores puedan comparar con estas lluvias las de Baguio de 14–17 de Julio de 1911, recordaremos que la cantidad de agua caída en estos cuatro días se distribuyó en la forma siguiente: día 14, 879.8 mm. (34.64 pulgadas); día 15, 733.6 mm. (28.88 pulgadas); día 16, 424.9 mm. (16.73 pulgadas); día 17, 200.4 mm. (7.89 pulgadas).

Las otras lluvias extraordinarias de "Silver Hill," según datos que tomamos de "Scientific American" ocurrieron en Noviembre de 1909. En cuatro días cayeron 2451.1 mm. (96.50 pulgadas), y en dos días 1460.5 mm. (57.50 pulgadas). Que estas observaciones sean al menos aproximadamente correctas lo demuestran los registros de otras estaciones próximas.

O

BULLETIN FOR JUNE, 1912.

METEOROLOGICAL BULLETIN FOR JUNE, 1912.

By Rev. JOSÉ CORONAS, S. J.,

Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The monthly mean of atmospheric pressure works out slightly lower than that for June of the preceding year for all the meteorological stations, except Baguio which shows the insignificant excess of 0.05 millimeter. For Manila, the said monthly mean differs from the normal for the month by only —0.05 millimeter, but from the corresponding value for the year 1912 by —0.29 millimeter. The highest pressures were, as a rule, recorded on the 2d; the lowest, on the 17th of the month.

The mean monthly temperature, on the contrary, was everywhere higher than for June, 1911, the largest departures being found for the stations in southern Luzon and the Visayan Islands. At Manila, the excess was 0.8° C. over the normal value for the month, and 1.5° C. over the mean for June of last year. The temperature extremes for Manila were 37.6° C. and 23.7° C., registered on the 4th and 2d, respectively. The maximum of 37.6° C is the highest observed at the Central Observatory in the month of June during the long interval from 1880 to 1912. On six days of the month the absolute maximum temperature at Manila exceeded 36.0° C.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS FOR JUNE, 1912.

Station.	Pressure.						Temperature.					
	Mean.	Departure from June, 1911.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from June, 1911.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	758.24	-------	759.30	13	757.37	16, 17	28.2	-------	35.6	9	-------	-------
Surigao	58.22	−0.21	59.34	2	57.38	16	28	+1	35	16, 23	23	12
Cebu	58.04	— .35	59.03	13	57.12	17	29	+1.7	34.9	9	23.1	10
Iloilo	57.98	— .50	59.18	13	57.04	17	28.5	+1.8	35.2	3	22.7	4
Ormoc	58.38	— .22	59.43	13	57.62	16	27.4	+1.5	32.9	2	20.8	24
Tacloban	58.24	— .75	59.34	2, 3	57.12	17	28.8	+1.6	35.4	8, 28	23.7	30
Capiz	57.89	— .54	59.16	13	56.81	17	28.2	+ .9	36	1, 4	23	25
Calbayog	58.18	— .22	59.49	2	57.01	17	28.1	+1.3	35.4	2	22.9	25
Legaspi	57.92	— .28	59.46	2	56.46	17	29.1	+1.3	37	10	22	23
Atimonan	57.58	— .46	59.26	2	56.12	17	28.7	+ .7	35.9	6, 7	22.6	7
Paracale	57.74	— .35	59.69	2	55.99	17	29	+1	37	21	23	1
Manila	57.89	— .29	59.38	2	56.50	17	28.7	+1.5	37.6	4	23.7	2
San Isidro	58	— .01	59.73	2	56.47	17	28.3	+ .6	37.5	4	22.6	21
Dagupan	57.30	— .42	58.96	2	55.83	17	28.5	+ .5	37.7	4, 11	23.2	2, 24
Bolinao	57.29	— .25	59.09	2	55.76	17	28.4	+ .8	36	2, 3	23.9	14, 15
Baguio[a]	636.20	+ .05	637.80	2	635.10	17	19	+ .2	25.6	4	15.4	22
Vigan	757.36	— .09	759.33	2	755.74	20	28.7	+ .5	35.8	1	23.3	19
Tuguegarao	57.15	— .27	59.91	2	54.51	20	29.1	— .1	41.1	20	22.6	29, 30
Aparri	56.75	— .64	59.41	2	54.06	20	28.3	— .2	35.2	21	22.6	30

[a] The barometric readings of this station are not reduced to sea level.

Precipitation.—A careful perusal of the subjoined table shows that at last there came a slight alleviation of the prolonged drought under which we have been suffering for

eight consecutive months. Sixteen stations report a total rainfall in excess of that during June of last year, and the amount collected in the pluviometers of the Central Observatory exceeds the total for the entire eight months preceding June. Still, the relief was only relative, as is shown by the following facts: (1) The amount of rain fallen at Manila, though totaling 96.4 millimeters, was nevertheless 137.5 millimeters short of the normal for June; (2) among the 25 stations for which the departure from normal is given in the table, only 5 appear with a positive difference; (3) of 46 stations only 16 report a rainfall in excess of that during June of 1912, while 30 still show a deficiency.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF JUNE, 1912.

Station.	Total.	Departure from June, 1911.	Departure from normal.	Rainy days.	Departure from June, 1911.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from June, 1911.	Departure from normal.	Rainy days.	Departure from June, 1911.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*	*mm.*			*mm.*			*mm.*	*mm.*	*mm.*			*mm.*	
Isabela, Basilan	329.3	+263.8		23	+10	44.4	19	Sumay, Guam	62.1	—158.2		12	— 8	11.4	28, 29
Zamboanga	58.4	+ 5.3	— 40.6	8	0	19.6	13	Calapan	86.2	—159.4		8	— 7	38.6	3
Davao	98.1	— 65.5	—132	8	— 1	28.2	9	Virac	73.3	—189.5		12	— 3	25	11
Cotabato	222.1		— 29.4	16		53.6	25	Nueva Caceres	99.1	—112.9	— 66.8	7	— 7	50.4	4
Dapitan	234.7			15		45.7	13	Batangas	48	—196.6		8	— 1	34	7
Butuan	86.8	+ 23.9	— 51.2	14	+ 1	23.9	11	Atimonan	146.6	+ 63.3	— .7	10	— 1	61	7
Dumaguete	127.2	— 50		6	—12	83.5	10	Silang	214.5	+ 71.2		10	— 1	58.2	29
Yap, W. Carolines	144.7	— 54.3		17	— 7	57.7	27	Paracale	74.4	—141.2		12	— 3	11.4	13
Tagbilaran	46.7		— 98.7	7		23.6	10	Sta. Cruz, La Laguna	108.5	— 58.9		14	— 6	41.4	1
Surigao	20.6	—138.7	— 91.9	6	— 6	9.7	11	Manila	96.4	— 20.8	—137.5	11	— 6	40.2	12
Maasin	118.9	— 57.2	— 32.5	6	— 4	39.9	19	Antipolo	132.2	— 36.6		10	— 2	58.4	7
Cebu	163.6	+ 29.1	— 6.1	16	— 3	31.7	10	Iba	320.7	—249.4		21	0	47.1	19
Iloilo	118.5	—135.4	— 84.5	19	— 1	27.2	4	San Isidro	248.3	+ 91.9	+ 46	19	+ 2	63.8	10
San Jose Buenavista	210.7	—398.6		24	— 1	45.2	16	Tarlac	364.1	+252.3	+147.5	20	+ 8	66	22
Cuyo	160.8	—290.7		19	— 5	32.2	12	Baler	143.8	+ 26.5		10	— 5	50.8	7
Ormoc	207.4	+ 20.5	+ 21.6	11	— 7	72.6	16	Dagupan	182	—104	—147.3	14	— 6	63.7	12
Guiuan	100.3	—151.6		13	— 3	44.7	10	Bolinao	225.3	—381.2	—172.1	20	— 2	49.2	19
Tacloban	55.2	—128.3		8	—13	17.7	29	Baguio	465.2	+219.8	+ 62.1	25	+ 6	102.1	14
Capiz	159.5	— 56.9	—152	18	— 1	37.8	17	San Fernando, Union[a]	169.9			15		45.5	29
Borongan	111.3	—118.4	—137	12	— 9	29.5	10	Echagüe	311.6	+254.3		19	+10	50.8	22
Calbayog	154.3	— 78.3	— 2.2	14	— 2	37.1	15	Candon	301.6	+107.8		16	— 2	136.1	29
Masbate	213.7			15		71.1	8	Vigan	162.3	—170.8	—123	18	— 3	23.2	29
Romblon	52.3			11		15.2	4	Tuguegarao	60.3	— 23.8	— 66	6	+ 1	34.3	21
Laoang	122.9	— 38.3		11	— 3	30	12	Laoag	119.8	+ 24.7		14	0	41.9	14
Gubat	29.8	—213.3		3	— 9	14.5	11	Aparri	164.1	+ 80	+ 43	12	+ 6	52.8	30
Legaspi	100.6	— 53.9	— 84.5	7	— 8	52.6	12	Sto. Domingo, Batanes	195	+113.3		14	+ 6	73.9	21

[a] 28 days of observation only.

DEPRESSION AND TYPHOONS.

No depression or typhoon was observed in the vicinity of the Philippines during the entire month. The few depressions announced by the Observatory were all far out in the Pacific Ocean, to the northeast of Manila, and of little importance. One of them affected to some extent the Loochoos Islands and Japan on the 19th, 20th, and 21st, while another filled up to the south or southeast of the Loochoos group long before it reached Japan.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes es para todas las estaciones, a excepción de Baguio, algo inferior a la de Junio 1911. La de Manila difiere de la normal en —0.05 mm., y de la media del año pasado en —0.29 mm. Las mayores presiones se observaron generalmente el día 2, y las menores el 17.

La temperatura media mensual es en todas partes mayor que la del año pasado, correspondiendo las diferencias más notables a las estaciones del sur de Luzón y de las islas Visayas. La de Manila es 0.8°C mayor que la normal de este mes y 1.5°C mayor que la media de Junio 1911. Los valores extremos para Manila han sido 37.6°C y 23.7°C registrados respectivamente los días 4 y 2. La máxima 37.6°C es la mayor de cuantas lleva registradas el Observatorio Central para el mes de Junio en el largo período 1880–1912. Seis veces durante este mes la máxima absoluta de todo el día ha sido en Manila mayor de 36°C.

Precipitación acuosa.—Examinando con cuidado la tabla de lluvia que acompaña el texto inglés, se echará de ver que algún alivio se experimentó este mes en la larga sequía que veníamos sufriendo por espacio de ocho meses consecutivos. Son 16 las estaciones que nos dan un total de lluvia mayor que el año pasado; y la cantidad de agua recogida en los pluviómetros de Manila es mayor que la caída en todo el largo período de los ocho meses anteriores, de Octubre 1911 a Mayo 1912. Sin embargo, este alivio no fué más que relativo como lo prueban los siguientes hechos: (1) La lluvia total para Manila que ha sido este mes 96.4 mm., difiere de la normal de Junio en —137.5 mm.; (2) de 25 estaciones cuyos totales de lluvia aparecen en la tabla indicada arriba con diferencias de las normales respectivas, no hallamos más que cinco con diferencias positivas; (3) de 46 estaciones, 16 solamente nos dan un total de lluvia mayor que en Junio del año pasado, según queda dicho, mientras que 30 nos lo dan todavía menor.

DEPRESIONES Y TIFONES.

Ninguna depresión o tifón se observó este mes en las cercanías de Filipinas. El Observatorio anunció solamente algunas depresiones lejanas hacia el NE, en el Pacífico, todas de poca importancia. De ellas una influyó regularmente en las islas Loochoos y en el Japón los días 19, 20 y 21, y otra se deshizo mucho antes de llegar al Japón, al S o SE de las islas Loochoos.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[a]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Day.	Pressure (mean).	Air temperature.[b] Mean.	Maximum.	Minimum.	Underground temperature.[c] 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity (mean).	Vapor pressure (mean).	Evaporation.[b] Free exposure (total).	Shelter (total).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	*Per ct.*	*mm.*	*mm.*	*mm.*
1	758.71	28.2	34.9	25.2	32.3	33.7	32.1	32.4	30.1	28.8	75.5	21.3	4	3.1
2	59.38	28.6	35.2	23.7	30.7	33.5	31.7	31.8	29.9	28.8	73.5	21.1	4.4	3.6
3	59.04	29.2	36.3	24.1	31.1	34.6	31.6	32.7	30	28.7	70	20.7	6	4.9
4	57.98	28.8	37.6	24.4	30.7	34.2	31.6	32.4	30.3	28.8	71.7	20.6	5.4	4
5	58.06	28.3	36.4	24.7	30.8	32.6	31.5	32	30	28.9	73.8	20.8	4.3	3.4
6	58.01	29.2	36.3	24.2	30.3	33.5	31.3	31.7	30.1	29	73.9	22.1	6.2	4.4
7	57.84	29	36.4	24	30.7	33.6	31.3	32	30.1	29	75.8	22.2	4.9	4.1
8	57.89	28.7	34.7	24.2	30.4	32.6	31	31.5	30	29	78.4	22.7	4.6	3.7
9	58.36	28.8	34.2	25	30.9	32.8	31.4	31.8	30.1	29	77.3	22.6	4.2	3.2
10	58.47	29.3	35.3	24.8	31.2	33.8	31.3	31.8	30	29	74.8	22.5	5.8	4.2
11	58.55	29.6	34.8	25.9	31.6	33.3	31.6	32	30	29	73.5	22.3	5.1	4.4
12	58.36	28.6	36.4	23.8	31.1	33.3	31.6	31.7	30	29	76.8	21.9	4.3	4
13	58.84	26.8	31.8	24.4	29.8	32.3	31	31.8	30	29	86.2	22.5	1.7	2
14	58.65	28.5	34.5	24.6	29.8	32.2	30.7	31.1	30	29.1	76.6	21.8	5.5	4.1
15	57.78	28.5	34	24.5	30	32	30.8	31.1	30	29	77.3	22.2	4.5	3.7
16	57	28.8	34.4	24.9	30.5	33.1	30.8	31.5	30.3	29.1	78.5	22.8	4.7	3.4
17	56.50	28.8	33.8	24.9	30.3	32.8	31.1	31.6	30	29	80.8	23.6	5	4
18	57.15	29.6	33.4	26	31.2	33.3	31.4	31.8	30	29	76.3	23.3	5.1	4
19	57.08	28.6	32.6	25.1	30.9	32.9	31.4	31.8	30	29	80.3	23.3	3.8	3
20	56.88	28.1	32.9	25	30.6	31.8	31.3	31.5	30	29	81.1	22.8	4.2	3.7
21	57.11	28.6	33.2	25.2	30.4	32.5	31	31.5	30	29	77.5	22.4	5.4	4
22	57.64	28.4	33.4	24.6	30.5	33.1	31.1	31.6	30	28.9	75.7	21.6	4.2	3.5
23	57.81	28.8	34.4	24.7	31	33.6	31.4	31.8	30.2	28.9	78.1	22.8	3.9	3.3
24	57.54	28.9	33.8	24.6	31.1	33.6	31.5	31.9	30	28.9	77	22.5	5	3.7
25	57.65	29.1	34.4	24.9	31	33.8	31.6	32.1	30	28.8	76.8	22.8	5.6	4.6
26	58	29.2	34.6	25.2	31.6	34.3	31.8	32.4	30	29	75.5	22.5	5.5	4.2
27	57.53	29	34.4	25	31.9	34.5	32	32.6	30	28.9	76.5	22.6	5	3.7
28	57.03	28.8	33.9	25	31.9	34.6	32.2	32.8	30	29	76.5	22.4	4.9	3.5
29	57.58	28	34.6	24.8	32	34.8	32.2	33	30	29	77.2	21.4	4	3.2
30	58.15	27.8	34.1	24.5	31.6	34.2	32.1	32.6	30.1	29.1	82.7	22.8	3.2	2.1
Mean	757.89	28.7	34.6	24.7	30.9	33.4	31.4	31.9	30	29	76.9	22.2	4.7	3.7
Total													140.4	110.7
Departure from normal	—0.05	+0.8	+2.3	+0.8							—4.0	—0.2		

Day.	Wind. Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Sunshine.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	*Km.*		*0–10.*			*h.* *m.*	*mm.*	
1	W, N	138.5	15.5	N	6.9	Ci.	Cu., Cu.-N. NE	5 20	.....	◩◹ p.
2	NW quad.	140.5	12.5	WNW	5.4	Ci.-S.	Cu. E	4 15	.....	○ ┬ p.
3	W quad.	204	19	NW	5.2	Ci., A.-Cu.	Cu. E	8 00	1.5	◩◹ ● p.
4	E quad.	154.5	16	SEbyS	8.1	Ci.	Cu.	5 50	.....	◩◹[2] ◠° p.
5	E quad.	124	25	SW	8.1	Ci.-S.	Cu., Cu.-N. NE	2 30	.....	◩◹ p.
6	SW quad.	222.5	22	WSW	5.1	Ci.	Cu. E	7 45	.....	◩◹ p.
7	SW quad.	245	24	SW	5.4	Ci.	Cu. ENE	7 30	20.8	◩◹ ● p.
8	W quad.	174.5	24	WSW	4.8	Ci.	Cu. ESE	8 00	.5	d ◩◹° a.
9	SW quad.	216.5	24.5	WSW	7.5	Ci.-S. NE	Cu. ESE	7 55	.....	○ a.
10	SW quad.	210	24	SW	4.7	Ci.	Cu. SSE	7 40	.....	◩◹ a.
11	S quad.	140	14	SSE	7.3	Ci.	Cu., Cu.-N. E	4 40	.....	◩◹ p.
12	SW quad.	212.5	19	WSW	5.2	Ci.-S. W	Cu. E	9 30	40.2	◩◹ ┬[2] ●[2] p.
13	SW quad.	148	14	WSW	9.9	A.-Cu.	Cu.-N. SSW	2 05	3.2	d a. p. ● p.
14	W quad.	290.5	31	WSW	7.3	Ci.-S.	Cu. W	8 10	12.2	● a.
15	SW quad.	210	23.5	WSW	8	Ci.-S.	Cu. NE	4 15	.....	
16	WSW	292	34	SWbyW	7.5	Ci.-S. NE	Cu.-N.	6 35	.....	
17	SW quad.	331	31	WSW	7.8	Ci. ENE	Cu. W	6 40	.....	
18	WSW	458	36	WSW	6.1	Ci. ENE	Cu. W	9 05	.....	◹ p.
19	W quad.	404.5	37	WSW	7.7	Ci.	Cu.-N. WSW	6 40	11.2	● a. p. ┬° p° d° p.
20	SW quad.	430.5	38	WbyS	7.9	Ci.-S. ENE	Cu.-N. W	4 00	1.4	● a. ●° p.
21	W quad.	402.5	33	SW	8.3	Ci.	Cu.-N. WSW	7 30	.....	d° a.
22	W quad.	230.5	29	WSW	7.7	Ci.-S. ENE	Cu.	5 10	.5	d[2] p.
23	W quad.	235	24	WSW	6.2	Ci.-S. NNE	Cu.-N. SSW	7 35	4	●° ○° a. ◩◹ ● p.
24	W quad.	303.5	29	WSW	7.5	Ci. ESE	Cu. SSE	8 25	.....	
25	W quad.	234.5	25	WSW	5.3	Ci. NE	Cu. WSW	9 25	.....	
26	W quad.	260	26	SWbyW	5.2	Ci.	Cu. SE	9 05	.....	◹ p.
27	SW quad.	228	24	SWbyW	3.5	Ci.	Cu.-N. E	8 25	.....	p° ┬ p.
28	SW quad.	251	27.5	SWbyW	4.8	Ci.	Cu. SSE	7 20	.....	d° p.
29	SE quad.	197.5	25	SSE	6.9	Ci.-S.	Cu. S	6 35	.9	◩◹ ◠° ●° p.
30	SW quad.	148.5	19	WSW	8.5	Ci.-S.	Cu., Cu.-N. E	5 10	.....	○ a. ┬ ● p.
Mean		241.3	24.8		6.7			6 42	.....	
Total								201 05	96.4	
Departure from normal		+10.1			—0.3			+27 21	—137.5	

[a] All the mean values given in this table are deduced from hourly observation.
[b] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.
[c] A comparison has been made this month of the underground thermometers with a standard thermometer; and accordingly the following corrections ought to be applied to their readings for the preceding months: 0.25 meter, —0.5; 0.50 meter, —0.6; 1.50 meters, —0.7; 2.50 meters, —0.8

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[a]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 26.2 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1..	758.32	28.3	34.3	.....	78.5	SE, S	0.3	2.7	Ci.	Cu. NE	.....	
2..	58.94	28.4	34.6	.....	77.3	E, NE	.7	2.3	Ci.	Cu. NE, E	.....	┬° d° ≤° p.
3..	58.66	28.5	33.9	.....	74.3	S, ESE	.5	3.5	Ci. NNE	Cu. SE	.....	≤² p.
4..	57.87	28.5	33.2	.....	78.5	SE quad.	1.2	2.7	Ci.	Cu. SE, E	.....	≤° p.
5..	58.02	28.5	33.8	.....	78.5	SE quad.	.7	3.2	Ci.	Cu. NE, SE	.....	┬° a. ≤² p.
6..	58.03	27.8	34.3	.....	83.3	NNE, E	.5	5.3	Ci. ENE	Cu. ENE, NE	.....	┬° ≤° p.
7..	58.18	27.7	32.9	.....	82.5	SE quad.	1.2	5.3	Ci.-S., Ci.	Cu. SE	.....	┬² ≤° p.
8..	58.39	26.7	34.1	.....	86	W, SE	.3	7	Ci.-S.	Cu. SW, E	2.3	●° p.
9..	58.31	28.4	35.6	.....	79.5	NE, SSE	.7	4.2	A.-Cu. SSE	Cu. SE	.....	≤° p.
10..	58.67	28.3	34.6	.....	82.3	SE	1.2	7.3	Ci.-S.	Fr.-N., Cu. E, NE	23.6	┬° ⌐⊿² p.
11..	59.22	27.3	32.7	.....	81.8	ESE, E	1.7	9.5	Ci.-S.	Fr.-N. N	2.5	●² ⌐⊿² a. d° ≤² p.
12..	58.96	28.2	32.9	.....	79.5	S, SSE	.7	5.5	Ci.	Fr.-Cu. SE	4.1	●° a.
13..	59.30	28.1	33.3	.....	82.7	S	1.2	4.5	Ci.	Fr.-Cu., Cu. S	.....	●° a.
14..	58.96	28.5	34.4	.....	78.3	S	1	1.8	Ci. SE	Cu.	.....	≤² p.
15..	58.20	28	33.3	.....	80.5	SE, S	1.2	2	Ci.-S.	Cu.	.....	d° a.
16..	57.37	29.1	34.8	.....	74	Variable	1.3	3.7	Ci.	Cu. E, ESE	.....	d° ≤² p.
17..	57.37	27.7	32.8	.....	81.7	S	.7	6.3	Ci.-S.	Cu. SSE	.....	≤² p.
18..	57.80	28.8	33.3	.....	76.3	S	1.2	4.3	Ci.	Cu. S	.....	
19..	57.65	29.4	35.4	.....	74.7	SE, S	.5	3.5	Ci.	Cu. NE	.....	d° a.
20..	57.73	28.9	32.4	.....	76.5	W, S	.7	7.3	Ci.-S.	Cu. SSW	3.8	●° a.
21..	57.78	28.4	33.9	.....	82	S	.7	5	Ci.	Cu., N. E	.....	
22..	58.15	28.8	33.7	.....	79.2	SE quad.	1	4.7	Ci.-S., Ci.	Cu. E	.....	⌐⊿° p.
23..	58.08	28.5	34.2	.....	78.8	Variable	1	4.2	Ci.-S.	Cu. NE, SE	.....	
24..	57.73	27.7	33.3	.....	79.3	Variable	.8	3.8	Ci.-S., Ci.	Cu. SE, ESE	.....	┬° ∪² p.
25..	57.84	28	33.8	.....	74	E quad.	1.7	6.2	Ci.-S.	Cu. NNE, ESE	5.3	⌒² a. ● ⌐⊿² p.
26..	58.46	28.1	33.8	.....	77.7	SE quad.	1.2	5.8	Ci.-S.	N. SE	5.1	d° ⌐⊿² ●° p.
27..	58.38	28.6	33.7	.....	73.8	SSW	1.2	7.8	Ci.-S.	Fr.-Cu. SW	.....	∪² p.
28..	57.98	27.9	34.5	.....	81.5	SE quad.	1	4.8	Variable.	Cu. E	.....	d° ┬² ⌒² a.
29..	58.13	27.2	32.7	.....	82.7	S quad.	1	7	A.-Cu. SSE	Cu. SE	.....	
30..	58,61	27.5	33.3	.....	82	Calm	0	5.7	Ci.-S.	Cu. SE	.....	
Mean	758.24	28.2	33.8	.....	79.3	.....	.9	4.9	.....	.....	.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	46.7	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1..	758.44	28.5	33	24.6	80.3	ENE	0.7	0.2	Ci.	Cu.	.....	Ω a.
2..	59.34	27.8	32.6	24.8	85.2	NE quad.	.5	2.7	Ci., Ci.-S.	Cu.	0.3	Ω d a. ● p.
3..	59	28.4	32.5	24.2	83.7	ENE	.8	1	Ci.	Cu.	.....	Ω a. ≤° p.
4..	58.15	28.5	32.6	24.4	83	ENE	.7	.5	Ci.	Cu.	.....	Ω° a. ≤° p.
5..	57.96	28.3	32.6	24.4	82.8	Variable	.7	.5	Ci.	Cu.	.....	Ω a. ≤° p.
6..	58.16	28.2	33.3	24.5	84.7	Variable	.7	.7	Ci.	Cu.	.....	Ω° a. ≤° p.
7..	58.07	28	33	24.4	84	N, ENE	.3	4	Ci.	Cu.	.....	⌐⊿° a. p. d° p.
8..	58.16	27.6	34	24.3	83	NW, S	.3	3	Ci.-S.	Cu.-N. SSW	.....	Ω° a. ⌐⊿ ≤° p.
9..	58.27	28.2	32.8	24.2	82	ENE	.7	1.3	A.-Cu., Ci.	Cu.	.....	⌐⊿ ≤° p.
10..	58.57	28.2	32	24	81	Variable	.8	3.8	Ci.-S.	Cu.-N.	.3	d° ○ a. ≤ d p.
11..	59.07	27	33	23.1	83.7	NE quad.	.7	6.8	A.-Cu., Ci.-S.	Cu.-N., Cu.	9.7	● p.
12..	58.99	27.2	32.4	23	82.2	WNW, ENE	.5	1	Ci.	Cu.-N. S	.....	
13..	59.10	27.9	32.4	24.1	81	SW, WNW	.5	2.7	Ci.	Cu.-N. SW	.....	≤° p.
14..	58.93	28.4	33	24	79.7	E quad.	.7	0	Ci.	Cu.	.....	∞ ≤° p.
15..	58.26	28.3	33	23.6	80.2	E quad.	.5	0	Ci.	Cu.	.....	Ω a. ∞ ≤° p.
16..	57.38	28	35	23.9	81.2	Variable	.7	1.8	Ci.	Cu. SbyW	.....	Ω° d° a. d° ●° p.
17..	57.43	26.5	29.4	23.8	86.2	S, NE	.3	5.5	Ci.-S.	Cu.-N.	.....	∞ p.
18..	57.72	27.9	33.5	24.1	79.7	NE, W	.5	.7	Ci.	Cu.	.3	d ●° ∞° ≤ p.
19..	57.73	28.3	34.9	24	80.8	Variable	.8	.2	Ci.	Cu.	.....	Ω a. ∞ ≤° p.
20..	57.54	28.3	33.6	24.5	74.8	W	.7	.3	Ci.	Cu.	.....	∞ ≤° p.
21..	57.69	28.5	33.5	24	78.5	N, WNW	.5	.3	Ci.	Cu.	.....	⌐⊿ ∞ p.
22..	58.25	28.1	34.4	24.3	80.7	Variable	.5	2	Ci., Ci.-S.	Cu.	.....	○ ⌐⊿ a. ∞ p.
23..	58.09	28.9	35	24	78.2	ENE	.7	.2	Ci.	Cu.	.....	Ω° a. ∞° p.
24..	57.72	28.5	34.4	23.4	78.5	ENE	.8	.5	Ci.	Cu.	7.4	⊍ p.
25..	58	28.2	33.1	23.9	81.2	NE quad.	.5	.5	Ci.	Cu.	1.3	● a. ⌒ ●° p.
26..	58,41	27.8	33	23.4	81.2	NE quad.	.8	.2	Ci.	Cu.	.....	
27..	58.17	27.7	32.9	23.5	80.5	NW	.5	2	Ci.-S.	Cu.	.....	Ω a. ∪ ≤° p.
28..	57.69	28.1	32.5	23.7	76	WNW	.7	1.5	Ci.	Cu.-N. SW	.....	⌒ ≤ p.
29..	58.06	26.7	30.6	24	87.2	NW	.2	7.7	Ci.-S.	Cu.-N. N	.8	d° ●° a. d° ⊍ p.
30..	58.25	27	32.3	23.1	83.8	SE	.2	2.8	Ci.-S.	Cu.	.5	⊍ p.
Mean	758.22	28	33	24	81.5	.....	.6	1.8	.....	.....	.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.6	

[a] All the mean values given in these tables are deduced from six daily observations.

Meteorological data for first and second class stations—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	758.24	29.5	34	26	72.3	E	0.5	4	Ci.	Cu. E	-------	☾ ●° a. ⌐◪° p.
2	58.96	30.1	34.6	27	69.2	E	.3	3.3	Ci.	Cu. E	-------	☋ ☾ p.
3	58.68	30.2	34.3	26.5	69.2	SE quad.	.5	3.5	Ci.	Cu. E	-------	Ω a. ☾ p.
4	57.79	29.7	33.1	26	69.8	E	.8	2.7	Ci.	Cu. E	-------	☾ p.
5	57.86	29.9	32.8	28	73.8	S	.3	4.3	Ci.	Cu. E	16.5	Ω ☾ a. ⌐◪ ● p.
6	57.94	29.4	34.5	25.9	73.3	Variable	.5	5.3	Ci.	Cu., Cu.-N. E	-------	●° a. ∞ p. ⌐◪ a. p.
7	57.90	29.2	34.4	26.1	74	Variable	.5	5.2	Ci., Ci.-S.	Cu. E	15.2	☾ a. p.
8	58.23	28.7	32.1	26.2	79.5	S	.3	6.3	Ci.-S.	Cu.	-------	● a. ⌐◪ a. p.
9	58.06	29.5	34.9	25	70	S quad.	.3	4.3	Ci.	Cu. E	-------	☾ ⊤ a. p. ⌐◪ p.
10	58.45	29.4	33.5	23.1	74.7	SSW	.5	6.2	Ci.-S.	Cu. E	31.7	⌐◪ a. p. ●² ☾² p.
11	58.94	27.7	31	23.3	80.8	E	.7	7.8	Ci.-S.	Cu.-N. E	4.1	●° ☾ a. p. ⌐◪ p.
12	58.77	29.2	32.6	26.5	73.7	SW quad.	.7	5	Ci.	Cu. SW	-------	Ω a. ☾ p.
13	59.03	28.6	33.2	26	75.5	SSW	.3	5.7	Ci.	Cu.-N. SW	7.9	Ω ☾ a. ⌐◪ ● p.
14	58.80	28.8	33.5	25.4	76.2	S	.3	3	Ci.	Cu.	18.5	Ω ⌐◪° a.
15	58.04	28.6	32.9	23.3	77.8	E	.3	4	Ci.	Cu., Cu.-N. E	-------	●² ⊤ a. ☾ a. p.
16	57.19	28.8	32.9	24.8	76.3	SW quad.	.7	5	Ci.	Cu., Cu.-N. E	29.2	Ω ☾ a. ●² ⌐◪ p.
17	57.12	28.1	31.9	23.9	76.2	SW quad.	.7	7.2	Ci.-S.	Cu. SW	-------	● a. ○ ⌐◪ p.
18	57.57	28.6	32.2	25.9	75.7	SSW	.5	4.3	Ci.	Cu. SW	-------	Ω a. ☾ a. p.
19	57.44	29.3	33	26.5	73.3	SW quad.	.7	5.2	Ci.	Cu. SW	-------	Ω a.°⌐◪ a. p.
20	57.37	29	32.4	24.6	74.5	SW quad.	.7	5.8	Ci.-S.	Cu., Cu.-N. SW	16.3	Ω ☾ a. ● ⌐◪ p.
21	57.50	28.3	32	24.3	79.3	SW quad.	.7	5.7	Ci.-S.	Cu. SW	-------	● ☾ a. ⌐◪ p.
22	58.17	28.8	33.8	25.4	76.2	S quad.	.5	3.8	Ci.	Cu. SW	1.3	Ω a. ●° ⌐◪ p.
23	57.92	29	33.7	25.4	75	E	.2	4.5	Ci.	Cu. E, ESE	-------	☾ a. Ω a. p.
24	57.56	29	33	25.9	70	Variable	.5	3	Ci.	Cu. E	.5	☾ Ω a. ⌐◪ p.
25	57.71	29.4	33.7	25	70.5	S quad.	.7	4	Ci.	Cu. E	-------	Ω² ●° a. ☾ p.
26	58.31	29.1	33.2	25	71.8	SW quad.	.8	4.2	Ci., Ci.-S.	Cu. E	-------	Ω a. ⌐◪ a. p.
27	58.03	28.7	32.7	25.5	72.5	SW quad.	.8	5.5	Ci., Ci.-S.	Cu. SW	10.2	☾ Ω² a. ☋ ⌐◪ p.
28	57.68	28.2	32.4	24	76.2	S quad.	.3	5.3	Ci.	Cu. S	11.9	☾ a. ● a. p. ⌐◪ p.
29	57.97	27.6	31.6	23.9	82	WSW	.2	6.7	Ci.-S.	Cu.-N. SE	.3	●° ⌐◪ p.
30	58.04	28.5	32.6	25	74.8	S	.3	3.8	Ci.	Cu. E	-------	⌐◪° a. Ω p.
Mean	758.04	29	33.1	25.3	74.5	-------	.5	4.8	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	163.6	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6.5 meters; gravity correction not applied —1.84 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	758	29.5	35.1	24.5	70.8	SW	1.3	5.3	Ci.	Cu.	5.3	⊤ ⌐◪ ☾ p.
2	58.59	30.1	35	24.4	64.8	NE	1.2	4.2	Ci.	Cu.	-------	● a. ☾ ⌐◪ a. p.
3	58.42	30.4	35.2	26.5	68.8	E, SW	1	6.3	Ci.	Cu.	2.5	☾ d ⌐◪ ● p.
4	57.67	29.3	33.2	22.7	74	NE, SW	1.7	6.5	Ci.	Cu.	27.2	☾ ● a. p. ⊤ ⌐◪ p.
5	57.96	28.1	32.2	24.8	80.8	SW	1.2	7.3	Ci., Ci.-S.	Cu.	-------	☾ a. ⊤ d p.
6	58.02	29.5	35.1	25.3	73	SW	.8	4	Ci.	Cu.	-------	☾ ⌐◪ p.
7	57.82	28.7	32.5	25.6	80.8	W	.8	5.5	Ci.	Cu.	21.6	☾ a. p. ⊤ ● p.
8	58.08	28.2	32.3	25.4	80.2	SW	1	5.3	Ci.	Cu.	-------	p ⊤ ● ☾ p.
9	58.19	27.7	31.6	24.8	78.5	SW	1.2	4.3	Ci.	Cu.	7.9	☾ a. p. ◠ ⌐◪ ● p.
10	58.58	28.4	32.7	24.9	77.3	Variable	.5	7.7	Ci.-S.	Cu.	5.6	☾ a. p. ⌐◪ ● p.
11	58.77	26.3	28.6	24.4	85	Variable	.7	7.7	Ci.-S.	Cu.-N.	8.4	● a. ☾ d a. p. ⊤ p.
12	58.84	27.5	30.9	25.1	80.8	SW	1.2	6.5	Ci.	Cu.	-------	● a. ☾ a. p.
13	59.18	27.6	30.9	25.6	76.7	SW	1.8	6.3	Ci.	Cu.	-------	☾° a.
14	58.65	28.7	31.5	25.4	74.8	SW	1.2	3.7	Ci.	Cu.	-------	☾ ●° p.
15	57.89	29	32.6	25.5	74.3	SW	1.2	6	Ci.	Cu.	2.5	⌐◪ ☾ ● p.
16	57.26	28.2	31.1	25.5	81.8	SW	1.5	6	Ci.	Cu.	-------	☾ p.
17	57.04	29	32.2	26.6	73.8	SW	1.2	6.3	Ci.	Cu.	.3	⊕ a. ☾ a. p. ● p.
18	57.62	29.2	31.6	27.3	74.2	SW	1.5	6.8	Ci.	Cu.	.3	d a.
19	57.56	29.1	31.5	26.3	74.5	SW	1.8	4.8	Ci.	Cu.	-------	●° ◠ d a. ☾ p.
20	57.51	28.5	30.7	25.1	76	SW	2	7.3	Ci.	Cu.	-------	d a. ☾ ☋ p.
21	57.43	28.6	31	27.3	73.5	SW	1.5	6.8	Ci.	Cu.	.8	d a. ☾ p.
22	57.94	28.4	31.5	25.4	76	SW	1.5	5.5	Ci.	Cu.	4.1	●° ○ a. d ☾ a. p.
23	57.80	28.6	31.4	25.8	77.5	SW	1	6.7	Ci.	Cu.	-------	● a. ☾ a. p. ☋ p.
24	57.44	29	33.1	25.8	72.8	SW	1	4.5	Ci.	Cu.	-------	○ a. ☾ ☋ p.
25	57.58	28.4	32.9	26.1	74.3	SW quad.	.8	5.7	Ci.	Cu. S	5.1	● ⊤ ☾ p.
26	58.24	27.8	31.7	25	78	SW	1.2	7.2	Ci.	Cu.-N.	8.9	● d a. ⊤ ☾ ⌐◪ p.
27	58.11	27.9	30.6	24	75.7	SW	1.2	7.2	Ci.	Cu.	-------	● ◠ a. ☾ p.
28	57.67	27.4	30.4	24.5	81.5	SW	1.2	7.3	Ci.	Cu.-N. S	14.2	● a. d a. p. ☾ p.
29	57.67	27.5	30.7	24.9	79.8	SW	.8	7.2	Ci.	Cu. S	3.8	d a. p. ☾ ⌐◪ ● p.
30	58	27.9	31.6	24.1	78.8	E, SW	.7	4	Ci.	Cu. ENE	-------	☾ p.
Mean	757.98	28.5	32	25.3	76.3	-------	1.2	6	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	118.5	

Meteorological data for first and second class stations—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction.			
									Upper.	Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.48	27.3	32.4	21.8	77.7	Variable	0.5	2.5	Ci., A.-Cu.	Cu. E	-------	⊤ p.
2	59.14	27.9	32.9	22.5	72.8	SW quad.	1	3.3	Ci.	Cu. E	-------	⊤ ↘ p.
3	59.21	26.8	32.7	22.7	83.3	N	.6[a]	3.8	Ci.	Cu.-N. E	13.3	⊤ ● ↘ p.
4	58.18	27.6?	31.9	22	76.2?	Variable	.7	2	Ci.	Cu.	-------	↘ p.
5	58.22	27.4	31.9	21.5	78.7	N	.5	3.8	Variable.	Cu.	1.8	d° ↘² a. ⊤ a. p.
6	58.27	27.8	32.6	24.5	82.8	N quad.	.5	2.3	A.-Cu., Ci.-S.	Cu. E	-------	● a. ⊤ ↘ p.
7	58.20	27.7	31.8	23.7	77.3	SE quad.	.5	6	Ci.-S.	Cu.-N. E	-------	☊° a. ⊤ ↘ p.
8	58.51	27.8	31.8	23	77.7	NE quad.	.7	5.7	A.-Cu. WbyN	Cu.-N. E	-------	⊤ a. ↘ p.
9	58.47	27.8	31.7	24.3	78	NW, S	.3	4.5	Ci.-S.	Cu.-N. ENE	.8	↘ a. p. p p.
10	58.79	27.8	32.5	23.2	77.3	Variable	.7	5.8	A.-Cu. E	Cu.-N. E	7.6	⊕ a. p p. ↘ a. p.
11	59.21	27	31.2	24	81.7	Variable	.7	8.3	Ci.-S.	Cu.-N. E	1.3	d ○° a. ↘ p.
12	59.11	27.3	31.2	23.1	78.7	Variable	.3	5	Ci.-S.	Cu. SW, E	-------	⊕ a.
13	59.43	26.8	31	23.1	82.5	N quad.	.3	7.2	A.-Cu. E	Cu.-N. S, E	2.3	◠ d a. ⊤ a. p. ↘ p.
14	59.17	27.4	32	23.6	80.5	S	.8	2.8	Ci. NE	Cu.	-------	↘ p.
15	58.37	27.2	32.2	21.8	76.8	Variable	.7	2.3	Ci. NE	Cu.	-------	↘ a. p.
16	57.62	27.4	31.6	22.5	78.2	NE	.7	4.2	Ci.	Cu.	72.6	⊤ ↘ p.
17	57.63	27.1	29.9	22.4	80.7	SE quad.	1	7.8	Ci.-S.	Cu.-N. S	8.1	●² ◩ a. ○² a. p.
18	58.01	27.2	31.5	22.5	80.5	SE	.8	5.3	Ci.-S.	Cu.-N. S	53.3	↘ ● a. ⊤° p.
19	57.92	27.5	31.7	23.3	81.3	SE quad.	.7	6	Ci.	Cu. S	-------	⊕° a. ⊤ ↘ p.
20	57.68	28	31.3	25.3	80.5	SSE	.7	7.7	Ci.	Cu.-N. SSW	-------	○ a. ↘ ☋ p.
21	57.82	27.4	31	23.9	81	S quad.	.7	6.2	Ci. E	Cu., Cu.-N.	-------	⊤ a. p. ↘ ☋ p.
22	58.30	28.2	32.2	23.5	74.5	S	1	6.3	Ci., Ci.-S. E	Cu.-N.	-------	↘ p.
23	58.24	27.4	32.1	22.6	77.2	Variable	.7	5.7	Ci.	Cu., Cu.-N.	-------	☋ p.
24	57.92	27.3	32.7	20.8	71	Variable	.5	5.2	Ci. E	Cu.	-------	
25	58.03	27.4	32.3	21.5	72	Variable	.3	4.2	Ci.	Cu.-N. NE	-------	↘ p.
26	58.50	27.3	32.3	21.5	75	SE quad.	.8	3.7	Ci.-S., Ci.	Cu.-N., Cu.	22.9	↘ a. p. ⊤ p.
27	58.52	27.2	32	23.3	77.7	Variable	.8	6.5	Ci.-S. SE	Cu.-N. SW	22.6	◩ ● ◠ ○° ⊤ ↘
28	57.94	27.2	32	22.3	79.5	NE quad.	.5	4	Ci.-S. E	Cu.	.5	○° a. ↘ p.
29	58.22	26.8	28.8	23.3	79.5	Variable	.3	8	Ci.-S.	Cu.-N. SE	.3	d a. ↘ p.
30	58.39	27.2	31.4	21.5	76.5	S	.5	5.2	Ci.-S.	Cu. ESE	-------	↘ p.
Mean	758.38	27.4	31.8	22.8	78.2	-------	.6	5	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	207.4	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 3.4 meters; gravity correction not applied, —1.82 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.59	29.1	33	26.1	80.5	SE quad.	0.7	5.2	-------	Cu. ESE	-------	d° p.
2	59.34	29.5	33.4	26	77.2	SE quad.	1.3	3.5	Ci., Ci.-S.	Cu. ESE	-------	☋² Ω² a.
3	59.34	28.6	33.6	26	82.2	NW quad.	.8	6.7	-------	Cu. E	-------	
4	58.20	29.2	33.5	26	75.8	SE	1	2.8	Ci.	S.-Cu., Cu.	-------	
5	58.08	29.2	34.4	25.9	76.8	SE	.5	5	Ci.	Cu.-N. ESE	-------	⊤ p.
6	58.25	29.6	33.5	25.8	76.2	SSE	1	5.3	Ci.-S.	Cu. ENE	-------	
7	58.20	29.7	34.5	25	76.2	E quad.	.7	6.8	Ci. W	Cu. E	-------	Ω a. ⊤ p.
8	58.02	29.3	35.4	26.2	78.7	ESE	.7	6.2	Ci.-S. W	Cu. E	-------	◩ ↘ p.
9	58.25	28.7	35	25.8	81.2	Variable	1.2	5	Ci.-S. W	Cu.	13.5	☋² a. ● ⊤ ◩² ↘² p.
10	58.70	28.4	34.5	25	81.5	Variable	.7	6.3	Ci.-S. SW	Cu.-N. SE	6.1	◠² a. ↘ a. p.
11	59.14	27.9	33.3	24.4	79.7	NW	.2	7.8	Ci. S	Cu.-N. N	2.3	● a. ○² a. p.
12	58.83	28.8	34.2	24.4	73	E	.7	6.7	Ci.-S. SW	Fr.-Cu. NE	-------	
13	59.25	27.2	34	24.2	82	Variable	1	8	Ci.-S. SW	Cu.-N. W	2.8	● ◩² p.
14	59.09	28.6	33.3	24.5	79	SE quad.	.8	3.3	Ci.-S. NE	Cu. S	-------	↘ a.
15	58.36	29	33	25.5	77.8	SE quad.	.7	3.8	Ci.-S.	Cu. SE	-------	Ω² a.
16	57.32	29.4	33.3	25.5	77.3	SSE	.7	4.8	Ci.-S. W	Cu. ESE	1.5	↘² p.
17	57.12	28.1	31	25.5	79.5	SE quad.	.7	7.7	Ci. W	Cu.-N. E	-------	● ↘ a.
18	57.59	29	34	25.6	80.2	SSE	.7	5	Ci.	Cu. E	.8	● ⊤ p.
19	57.50	29.1	34	25.5	79.3	S	.5	5.5	Ci. SSW	Cu. E, SE	8.7	Ω² ↘ a.
20	57.38	29.2	33.8	24	79.7	E	.8	8.2	Ci. SW	Cu., S.-Cu.	1.8	● ◩ a. ○² a. p. ↘ p.
21	57.47	28.8	33.5	25.5	78.3	SE	.5	6	Ci. SW	Cu. ESE	-------	● a. ☋² p.
22	58.35	29	34	25.3	80.2	SSE	1	6.2	Ci. SWbyS	Cu. E	-------	Ω² a. ○² a. p.
23	58.28	29.4	33.3	26	73.8	SE	.7	5.7	Ci. SW	Cu.	-------	Ω² a. ☋² p.
24	57.94	28.8	33.9	24.3	75.3	S quad.	.7	4.8	Ci.-S. SW	Cu. E	-------	Ω² a. ☋² p.
25	58.02	28.6	34.5	24.3	76.8	SE	1.2	4.7	Ci. SSW	Cu. ENE	-------	
26	58.46	29.1	33.6	25.3	75.7	SE	1.2	3.7	-------	Cu. ESE	-------	☋² p.
27	58.10	28.9	35	25.5	75.5	E	.7	4.5	Ci.-S. SSW	Cu.	-------	○² a.
28	57.54	29.4	35.4	25.2	74.8	ESE	.7	4.5	Ci.-S. SSW	Cu. E	-------	
29	58.21	26.4	28.8	24	88.3	Variable	.8	7	Ci.-S. SSW	N., Cu.-N. E	17.7	● ◩ a. ◡² p.
30	58.39	28.2	32	23.7	79.3	SE	.7	5.5	Ci. SSW	Cu. E	-------	≡° ◡² ☋ a.
Mean	758.24	28.8	33.6	25.2	78.4	-------	.8	5.5	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	55.2	

[a] Deduced from 5 observations only.

Meteorological data for first and second class stations—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.24	29.3	36	24.3	78	NE	0.8	5.7	Ci.	Cu., Cu.-N. NE	-------	┬° a. ⊽° ↘ p.
2	58.89	30.3	35.7	27.2	75	NE	1	6	Ci.	Cu. ENE	-------	┬° a. p. ↙ ⊽° p.
3	58.67	30.3	35.5	27	75.5	NE	.7	4.7	Ci.	Cu. NE	-------	↘ p.
4	57.58	29.9	36	26.2	77.3	NE	.7	5.3	Ci.	Cu. NE, E	-------	┬ ↘ p.
5	57.86	27.5	35.7	24.4	86.5	S	.7	4.8	Ci.	Cu. N	4.9	┬ ↘ a. p. ● ⌐◪ p.
6	57.91	28.5	34.8	24.4	82.7	NE	.5	5.2	Ci.	Cu.-N. NE	-------	⊽° ┬ ◪ d² a. ↘ p.
7	57.67	28.9	34.8	25.2	81	NE	.5	6.3	Ci.-S.	Fr.-N. NE	.3	d ⊕ ○ a. ┬° a. p.
8	57.96	27.9	35.3	24.8	81.5	N	.3	4.3	Ci.	Cu.-N. E	-------	┬ a. p. ↘ p.
9	58.16	28.2	35.8	24	77.2	Variable	.5	6	Ci., Ci.-S.	N. NE	-------	┬ ↘ p.
10	58.56	27.9	34.2	24.7	81.5	Variable	.8	7.2	Ci.-S.	N.	-------	⊕ ○ a. ↘ p.
11	58.78	26.7	29.9	25	90.3	E	.2	8.8	Ci.-S.	N. E	3.8	●° ┬ a. ↘ p.
12	58.65	26.7	33.7	23.8	88	SE, NNW	.3	6.8	Ci.-S.	N. NE, NW	17.3	↘ a. ● a. p. ┬ p.
13	59.16	26.4	32.5	23.3	91.2	SW, S	.3	8.2	Ci.-S.	N. S	7.1	● ≡ a. ┬° p p.
14	58.62	28.2	33.3	24.8	83.5	SE	.5	5.7	Ci.	Variable SE	2.5	↘ p p.
15	57.81	28.9	34.8	24.3	80.8	NE	.7	5	Ci.	Variable NE	-------	┬ ↘ p.
16	57.01	29	35.5	25.6	79	SE, NE	.3	5.8	Ci.	Cu., N. SE, SW	-------	┬ ↘ p.
17	56.81	27.8	34.2	23.2	81.2	S	.3	6.8	Ci.-S.	N. S	37.8	┬° ●² ⌐◪ ↘ p.
18	57.26	26.4	34	23.4	90.7	S quad.	.7	5.5	Ci.-S.	N. S, SE	36.3	d° a. ● ⌐◪ p.
19	57.31	27.2	33.9	24	88	SW	.8	6.2	Ci.	Cu., N. SW, NW	6.2	●° ┬° p p.
20	57.14	27.2	33.1	24.1	88.5	S	.8	7.3	Ci.-S.	N. S	12.4	d a. ┬ ● ↘ p.
21	57.21	28.2	33.9	24.9	83	SW quad.	1.2	6.3	Ci.-S.	Cu. SE	.5	┬ d² ↘ ⊽ p.
22	57.88	28.2	34.3	24.5	84.8	Variable	.5	8.3	Ci.-S.	Cu., N. SE, NE	3	┬ ⌐◪ ● p.
23	57.82	28.4	33.8	24.2	84.2	Variable	.7	7.7	Ci.-S.	Cu., Fr.-N. S, SE	-------	d° ┬ ↘ ⊽ p.
24	57.60	28.8	34.4	25.1	81.8	Variable	.5	6.2	Ci., Ci.-S.	Cu. NE, SE	15.7	↘ p.
25	57.57	28.1	33.8	23	83.3	S	.8	5.5	Ci.-S.	Cu. SE	-------	● ⌐◪ a. d° ┬° p.
26	57.97	28.2	33.9	24.7	82.7	Variable	.7	5.7	Ci.	Cu. SE	.8	p a. ┬° ↘ p.
27	57.77	28.2	34	25.3	83	S	1	7.7	Ci.-S.	Cu., N. S, SE	3.8	↘ ◠° a. p ⌐◪ ⊽° p.
28	57.22	28	35.5	24.4	81.3	S	.8	5.7	Ci.	Cu. S	2.3	┬° ● ⌐◪ ⊽ ↘ p.
29	57.47	27.9	33.2	24.7	83.3	Variable	.5	7.5	Ci.-S.	N. SW	4.8	● a. ⌐◪ a. p. ⊕ ○ p.
30	58.01	27.7	34.2	23.7	84	SW quad.	.7	5.8	Ci.	Cu., N.-cf. SE	-------	d° ┬° a. ⊽° p.
Mean	757.89	28.2	34.3	24.6	83	----------	.6	6.3	----------	----------	-------	
Total	---------	------	------	------	------	----------	-------	-------	----------	----------	159.5	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.80 mm.]

	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.58	27.4	33.1	23	82.8	N	1.2	2	Ci.	Cu.-N. ENE	-------	┬° ⌐◪ ↘ ⊽ p.
2	59.49	27.9	35.4	23.6	83.3	N	.8	3.3	Ci., Ci.-S.	Cu. E	4.6	d ┬ ⌐◪ ↘° p.
3	59.28	26.7	32.3	23.7	87.2	N	.5	3.3	Ci.-S.	Cu. ENE	4.1	●° ┬ d p.
4	58.15	28.2	33.1	23.7	80.3	Variable	.5	2.3	Ci.	S.-Cu. ESE	1	♎ a. d° ↘ p.
5	58.01	27.8	32.8	23.6	78.8	N quad.	.8	1	----------	Cu.	-------	┬ ↘ p.
6	58.14	28	32.7	23.9	80.7	N quad.	.8	3	Ci., Ci.-S.	Cu. NE	-------	⌐◪ ┬ ↘° p.
7	58.11	28.6	34.7	24.4	77.7	Variable	.7	3.3	Ci. WNW	Cu.-N. ENE	-------	┬ p.
8	58.21	28	33.1	24.7	83	N quad.	1	2.3	Ci.-S.	Cu.	-------	┬ a. ⌐◪ ↘ p.
9	58.34	27.6	34.3	23.7	84.3	N quad.	.8	3	A.-S., Ci.-S.	Cu.	.5	⌐◪ d ┬² ↘² p.
10	58.63	28.1	33.1	23.8	81	S, SW	.3	4.7	Ci.-S.	S.-Cu. NE	.5	↘ a. p. ┬ p.
11	59.09	27.2	32.6	24.8	86.5	N quad.	.7	8.7	Ci.-S.	S.-Cu.	4.1	↘ d a. ┬° ↘² p.
12	58.92	27.9	31.7	24.5	82.3	Variable	.7	6.3	Ci.-S.	S.-Cu. SSW, S by W	1	◠² d° a. ┬ ↘ p.
13	59.07	28	34.5	24.3	82.7	Variable	.7	5.5	Ci.-Cu. E by S	Cu. SW	3.6	d ┬ ↘ p.
14	59.03	28	33.4	24.4	81.7	Variable	.7	3.3	A.-Cu. E	S.-Cu.	-------	◠° a. ┬ p.
15	58.13	28.4	32.8	23.8	80.7	Variable	.7	3.3	Ci. ESE	S.-Cu.	37.1	● ⌐◪ ↘ p.
16	57.38	28	32.2	23.4	82.3	Variable	.7	2.3	Ci.	S.-Cu., Cu.	1.8	↘ p.
17	57.01	28.6	32.4	25.2	78.7	SW	.7	6.5	Ci.-S.	S.-Cu. SW	-------	d° a.
18	57.48	28.6	32.7	25.5	80	NW	.8	6	A.-Cu. E	S.-Cu. SW	-------	
19	57.37	29	34.2	24.5	78.7	SW quad.	.8	4.3	Ci. ENE	Cu. SW	-------	↘ p.
20	57.20	28.8	32.6	25.7	80.8	W quad.	.7	7.5	Ci.-S. ENE	S.-Cu. SW	19	● a. ↙° p.
21	57.47	28.5	32.9	24.9	79.8	S quad.	.8	6.3	Ci.-S. N by E	S.-Cu. SW, S	9.2	d° a.
22	58.16	27 9	32.4	24.2	83.5	Variable	.5	7.8	Ci.-S. ENE	N. SW	35.8	●° ┬° ◠° a. ⌐◪ ●² p.
23	58.17	27.9	33.3	23.1	82	Variable	.7	5	Ci.-S. N by E	S.-Cu. S, SE	-------	┬ ⊽° p.
24	57.79	28.4	33.7	23.4	73.8	Variable	.8	2.8	Ci. NE	S.-Cu. E	-------	♎° a. ⊽ p.
25	57.89	28.3	33.5	22.9	73	Variable	.8	3.3	Ci. SE	S.-Cu.	-------	⊽ p.
26	58.29	28.3	34.4	23.6	79	Variable	.5	4.3	Ci., Ci.-S.	S.-Cu. E	2	⌐◪ d ↙ ┬° ⊽ p.
27	58.16	28.2	33.1	23.6	79	N quad.	.8	5.8	Ci. SW by S	Cu. SW	-------	↘ a.
28	57.63	28.7	32.7	24	77.7	Variable	.7	4.5	Ci.-S.	Cu. SW	30	⌐◪ ┬° ● p.
29	57.91	26.8	31.1	23	84.3	SE quad.	.8	7.2	Ci.-S.	S.-Cu.	-------	↘ a. ⊍ p.
30	58.26	27.9	32.4	23.4	78.7	Variable	.8	3.5	Ci.	Fr.-Cu. ENE	-------	⊍ a. ↘ ┬ p.
Mean	758.18	28.1	33.1	24	80.8	----------	.7	4.4	----------	----------	-------	
Total	---------	------	------	------	------	----------	-------	-------	----------	----------	154.3	

Meteorological data for first and second class stations—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.67	30	36.1	22.6	75.2	ENE	0.7	2.2	Ci. SE	Cu. E		☇° p.
2	59.46	30.7	35.9	26.9	73.3	ENE	1	1.7	Ci. W	Cu. ENE	11.9	☇° p.
3	59.27	29.7	35.2	24.9	78	NE, ENE	1	2	Ci.	Cu. E	14	● a. p.
4	58.17	29.4	35.4	23.9	80.8	NE	.8	2.2	Ci.	Cu. WSW	.....	● a. ⊤ ☇° p.
5	57.88	30	36.3	24	76.3	NNE, ENE	.8	.7	Ci.	Cu.	.....	
6	58.02	30.2	36.1	23.9	77.7	NE, ENE	.7	.8	Ci. N	Cu.	.....	☇° p.
7	57.91	29.7	36.5	22.8	78	ENE	.5	.5	Ci.	Cu.	.....	⊤° a. ☇° p.
8	57.91	29.2	36.5	23.4	80.3	E, ENE	.3	1.5	Ci.	Cu. SW, SSW	.....	⊤● ☇ p.
9	58.20	28.4	36.2	23.2	82.3	S, ENE	.3	2	Ci.	Cu. WSW	1.3	●° ⊤° ☇ p.
10	58.53	29.8	37	22.3	78.2	NNE	.7	1.8	Ci.	Cu. E	.....	≡ a. ☇ p.
11	59.09	26.6	29.9	23.5	88.2	ENE	.2	7.2	Ci.-S.	Cu., N.	6.6	☇° ● d a. ☇ p.
12	58.82	25.8	34.2	22.5	91.8	NE	.2	4.7	Ci., Ci.-S.	Cu. SW	52.6	d° a. ●² ☇ p.
13	58.80	27.8	33.5	22.4	83.5	W	.5	4.2	Ci., A.-Cu. S	Cu. SSW, SW	.....	≡° a.
14	58.74	29.2	35.2	24	78.3	SSW, S	.3	5.5	Ci.-S., A.-Cu. S	Cu. S	.....	☇ p.
15	57.95	29	36.2	23.9	82	NE, ENE	.3	.8	Ci.	Cu. SW, S	.....	☇ a. p.
16	56.76	29.2	35.7	23.5	76.5	S	.5	1.7	Ci. N, NE	Cu. SW	.....	≡ a. ☇ p.
17	56.46	28.3	34.5	24	79.2	WSW	1	2.5	Ci. NE	Cu. SSW, WSW	.....	☇ a. p. ⊤° p.
18	57.08	28.9	34.1	24.5	77.2	SW, WSW	.8	4.5	A.-Cu. SW	Cu. SW	.....	●° a.
19	56.75	29.9	35.1	24.8	74.2	SW	1.3	1.5	Ci. NE	Cu. SW	.....	☇ p.
20	56.72	29.8	35.4	24.6	73	SW	1.3	3.2	Ci., Ci.-S.	Cu. SW	.....	☇ p.
21	56.84	29.9	35.4	24.8	72.2	SW, WSW	1.2	4.5	Ci.	Cu. SW	.....	☇ a. p.
22	57.65	29.4	34.8	23.5	74.3	SW	.5	5.3	Ci.-S.	Cu. SSW, SW	5.6	☇ a. p.
23	57.74	28.8	34.9	22	78.2	S, SSW	.3	3.2	Ci.-S., Ci. ENE	Cu.	.....	● a.
24	57.62	29.9	36.4	23.2	78.2	E quad.	.5	1.7	Ci. E, ENE	Cu. SE	.....	
25	57.80	29.6	36	23.3	76.2	ENE	.5	1	Ci. E	Cu. ENE, E	.....	
26	58.03	29.2	36.6	22.5	77.3	SE quad.	.5	2.5	Ci.	Cu. S	.....	●° ☇ p.
27	57.68	29.2	35.4	23.6	77.5	S	.5	1	Ci.	Cu. SSW	.....	☇° p.
28	57.16	29.2	35.2	23.4	75.5	SSW	.8	1.7	Ci.-S.	Cu. SSW	.....	☇ p.
29	57.59	28.3	35	24	79.8	SW quad.	.5	4.5	Ci.-S.	Cu. S	8.6	● ⌐☓ p.
30	58.24	28.8	34.8	22.9	79.5	NE	.8	3	Ci.	Cu. SE	.....	☇° p.
Mean	757.92	29.1	35.3	23.6	78.4	----------	.6	2.7	----------	----------	.....	
Total	.....	.....	.....	.....	.....	----------	.....	.....	----------	----------	100.6	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.74 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.54	27.6	33.9	24.7	83.8	SW	1.2	8.7	Ci.-S.	Cu.-N. SE	6.4	☇° a. ⌐☓° ● p.
2	59.26	29.2	33.3	24.5	79	N quad.	1.5	5.8	Ci.-S.	Cu., Cu.-N. SE	.8	☇° a. ⊤° ◠° ⌐☓ ● p.
3	59.03	28.7	32.9	24.6	83.3	SW, NW	1.5	4.2	Ci.	Cu. E	1	⌐☓ ● ☇° ☋° p.
4	57.84	28.5	32.1	24.9	82.2	SW	1	4.5	Ci. N	Cu. SE	.....	☋° Ω² a. d² p.
5	57.67	28.4	35.2	24.3	82.8	SW	1.2	6	Ci.-Cu. E	Cu.-N. N	.....	⌐☓ d° a. p. ☇ p.
6	57.88	28.7	35.9	23.1	76.5	W, NW	1.3	4.2	Ci. E	Cu. SE	.....	⌐☓ ☇² p.
7	57.66	29.6	35.9	22.6	75.2	SW	1.3	5	Ci. E	Cu.-N. ENE	61	☋° a. ⌐☓ a. p. ●² p.
8	57.40	28.5	35	23	77.2	SW quad.	1.2	6.5	Ci. E	Cu.-N. E	.....	⌐☓° ☇ p.
9	57.90	29	34.9	24.7	77.7	SW	1	4.8	Ci. E	Cu. E	.....	⌐☓° d° ☇ p.
10	58.03	29.4	35.4	24.4	75	SW, E	.8	3.8	Ci.	Cu. E	6.4	⌐☓ ☇ p.
11	58.50	27.1	31.9	23.6	87.7	SW	.7	7.8	Ci. E	S.-Cu. SE	45.7	● ⌐☓ a. p. d° ☇ p.
12	58.51	28.2	34	23.5	77	SW	1	9	Ci.-S. E	Fr.-N., S.-Cu. SE	1.8	◠ d° a. ⌐☓ ●° a. p.
13	58.57	27.4	33	23.4	83.2	SW	1.3	8	A.-Cu. SE	Cu. S, SSW	2.5	● d² a. ☇° p.
14	58.47	28.2	34.1	24.3	77.7	SW	1.3	8	Ci.-S. NE, N	Cu. S	5.3	◯² a. p. ●° p.
15	57.49	28.1	32.6	23.7	80	SW	.8	7.7	Ci.-S NE	Cu. S	.....	◯° a. p. ☇ p.
16	56.53	28.6	34.4	24.6	79.7	SW	1	5.3	Ci. NE	Cu. S	.....	◯° a. ☇ p.
17	56.12	28.9	34.4	24.3	76	SW	1	8.2	Ci., Ci.-S. NE	S.-Cu. SW, W	.....	◯² a. ◠° ⌐☓ ☇ p.
18	56.67	29.7	35.3	25.6	71.3	SW quad.	.8	6.2	Ci.-S. NE	Cu., S.	.....	◯° a.
19	56.31	29.5	35.2	25.2	72	SW quad.	1.2	4.2	Ci. NE	Cu.	.....	☇ p.
20	56.13	30	34.5	24.7	69.3	SW	1.5	7.7	Ci.-S. ENE	Cu. S	.....	◯° a. ⊤ ☇ p.
21	56.35	29	35.3	24.9	70.5	SW	1.3	5.8	Ci. NNE, E	Cu., S.-Cu. W	8.1	⊤ ⌐☓ ●° d² ☇° p.
22	57.35	27.8	33.8	23.4	80	SW	1	8.2	Ci.-S. NE	Cu. SW	.....	◯° a. ☇ ☋² p.
23	57.63	28.8	34.6	24.9	78	SW	1.2	5.7	Ci. NE	Cu. SW	.....	⌐☓ ☋° ☇ p.
24	57.33	28.9	35.2	24.1	75.7	SW	1.2	5.8	Ci. NE, ENE	Cu. S, SSW	.....	☇ p.
25	57.45	29	35.6	24.1	69.3	SW	1.3	2.8	Ci.	Cu.	.....	☋² p.
26	57.71	29.2	35.3	24.1	70.5	SW quad.	1.3	4.7	Ci. ENE	Cu. SW	.....	☇ ☋° p.
27	57.37	28.7	34.4	24.3	75.5	SW quad.	1.3	3.2	Ci.	Cu. S	.....	☇ p.
28	56.73	29.4	34.8	24.6	71.8	SW	1.2	4.8	A.-Cu. E	Cu. S	.....	☇ ☋° ◡ p.
29	57.18	28.1	34	24.9	80.5	SW	.8	8	Ci. E	Cu. SSE	.....	⌐☓° ☋° ◡° p.
30	57.88	27.6	33.8	23.6	84.8	SW	1	9	Ci.-S. NE	Cu. SE	7.6	◡² ◯² ● a. ⌐☓ p.
Mean	757.58	28.7	34.4	24.2	77.4	----------	1.1	6.1	----------	----------	.....	
Total	.....	.....	.....	.....	.....	----------	.....	.....	----------	----------	146.6	

Meteorological data for first and second class stations—Continued.

PARACALE.

[ϕ=14° 17′ N; λ=122° 47′ E; barometer above sea, 5.3 meters; gravity correction not applied, —1.73 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	*P.ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.70	28.1	34.8	23	81.2	SW	0.8	7.5	Ci.	Cu. E	-------	☋ ☊² a. ⊕ a. p.
2	59.69	29.2	34.3	24.8	81.2	ENE	.8	5.3	Ci.	Cu. E quad.	2.8	☊ a. d ● p.
3	59.38	29.2	34.3	25	82	NE	1	3.3	Ci.	Cu. E	-------	
4	58.05	28.5	34.3	24.7	82.8	E, NE	.3	3	Ci.	Cu. E	8.6	☊ a. p. ● ⊤ p.
5	57.92	28.4	34.8	24.5	82.5	NE	.2	2.5	Ci.	Cu., S.-Cu. SW	3.1	☊² a. ● ⊤ ≲ p.
6	58.18	29.2	34.8	24.2	80	Variable	.7	2.3	Ci.	Cu. SW	-------	≲ p.
7	57.83	29.2	34.8	24.8	81.8	NE	.5	4.5	Ci.	Cu. SW	-------	☊ a. ⊤ ≲ p.
8	57.68	28.8	34.8	25	80	NE, WSW	.3	6.3	Ci., Ci.-S.	Cu. SW	1.5	≲² a. ◪ ●° ≲ p.
9	58.03	28.2	35.3	24.4	84.8	SW	.7	3.7	Ci.	Cu. SW	8.1	☊ a. p. ◪ ● ≺ p.
10	58.45	29.2	34.6	23.9	79	NE	.5	2.8	Ci.	Cu. E, SW	-------	☊² a. ≲ p.
11	58.88	28.5	33.8	24.5	80.3	E	.7	8.7	Ci.-S.	Cu. E	-------	☊ ⊕ a. ≲ p.
12	58.66	28.5	33.3	25	82.8	Variable	.7	6	Ci., Ci.-S.	Cu. SW	8.4	≲ a. p. ● ◪ ⊕ p.
13	58.62	27.3	32.3	24.9	86.7	SW	.5	8	Ci.-S.	Cu. SW	11.4	◪ a. p. ● ≲ p.
14	58.50	28.3	34.3	24.6	82.7	SW	.7	7.3	Ci., Ci.-S.	Cu. SW	-------	☊² a. ≲ ☊ p.
15	57.64	28.7	35.3	24.7	82.8	Variable	.5	6.8	Ci.-S.	Cu. SW	-------	☊ a.
16	56.60	28.7	35.8	24.3	82.3	SW	.5	6.2	Ci., Ci.-S.	Cu. SW	-------	☊ a.
17	55.99	29.4	35.6	25	76.3	SW	1	8.7	Ci.-S.	Cu. SW	-------	☊ ⊕ a. ≲ p.
18	56.58	30	36.3	26.9	74.3	SW	1.3	5.3	Ci.	Cu. SW	-------	p ≲ p.
19	56.38	30	36.8	25.4	76	SW	.8	7.7	Ci.-S.	Cu. SW	-------	☊° a. ◪ ≲ p.
20	56.15	29.8	35.7	26	75.3	SW	1	7	Ci.-S.	Cu. SW	-------	≲ p.
21	56.32	30.3	37	25.8	72.2	SW	1.5	4.8	Ci.	Cu. SW	-------	≲ ☋° p.
22	57.26	29.6	36	24.8	74.7	SW	1	8.7	Ci.-S.	Cu. SW	-------	≲ ☋ p.
23	57.66	29.6	35.3	25.2	78	NNE	.5	6.5	Ci., Ci.-S.	Cu. SW	.8	≲ a. p. ⊤ ●° ☋ p.
24	57.48	29.4	36.4	24	77.7	NNE	.7	5.7	Ci., Ci.-S.	Cu. SW	10.7	☊ a. d ● ◪ ☋ p.
25	57.67	28.9	35.5	24	78.8	NNE	.7	2.8	Ci.	Cu. S	-------	
26	57.90	29	34.8	25.3	81.7	ENE	.3	4.3	Ci.	Cu. WSW	.8	☊² a. d° ●° ◪ ≲ p.
27	57.44	29.6	36.4	24.9	79.5	NE	.7	2.2	Ci.	Cu. SW	-------	☊ a. d° ≲ p.
28	56.93	29.6	36.4	24.9	78.5	NNE	.7	4.3	Ci.	Cu. SSW	-------	☊ ≲ a. d ≲² p.
29	57.38	28.3	35.1	24.2	83.3	NE	.5	6.3	Ci., Ci.-S.	Cu. SSW	9.1	≲ a. p. ◪ ● p.
30	58.17	27.5	34.3	23.9	85.5	E	.5	7.8	Ci., Ci.-S.	Cu. S	9.1	⊕ a. ⊤ ● ≲ ☋ p.
Mean	757.74	29	35.1	24.8	80.2		.7	5.5			-------	
Total	-------	-------	-------	-------	-------		-------	-------			74.4	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

	mm.	°C.	°C.	°C.	*P.ct.*		*0–12.*	*0–10.*					*mm.*	
1	758.98	27.7	36.2	23.7	80.3	Variable	2	7.2	A.-Cu.	SE	Cu.-N.	SW	-------	☊ a. ⊤ p.
2	59.73	28.7	36.4	22.9	75.7	N, SE	1.3	4.2	Ci.		Cu.	SE	-------	☊ ≡° a. d° ⊤ p.
3	59.34	28.9	37.4	23.8	77.8	SE	1.3	4.2	Ci.		Cu.	SE	8.1	☊ ≡° a. ● ⊤ ≲ p.
4	58.08	28.5	37.5	23.4	80.2	E, SE	1.3	5.5	Ci.	SW	Cu.	E, SE	1	⊤ ≲ d p.
5	58.36	27.4	34.7	23.5	84	SW quad.	1.3	5.3	Ci.	NE	Cu.	S	2	☊ ≡° a. d ⊤ ≲ p.
6	58.10	28.7	36.9	23	76.8	SE	1.2	4	Ci.		Cu.	SE	-------	☊² ≡ a. ⊤ ≲ p.
7	57.88	30	37.4	24	72.3	NE, SSW	1.7	6.8	Ci.	E	Cu.	SW	-------	☊ a. d° ⊤ ≲ p.
8	58.12	27.5	36.2	23	82.2	Variable	1.7	6	Ci.		Cu.	SW	25.4	☊ a. ●² ⊤ ≲ p.
9	58.53	27.4	33.7	23.4	86.3	N, SW	1.5	4.5	Ci.	E	Cu.	SW	5.3	≡ a. ●² ≲ p.
10	58.72	28.8	36.5	23.1	79.8	NE, S	1.5	5.2	Ci.	E	Cu.	SE	63.8	≡ a. ●² ◪ ≲ p.
11	58.70	29.1	35.7	23.9	80.8	ESE	1.3	5.2	Ci.	E	Cu.	SE	2	≡° a. d ⊤ p.
12	58.64	29.4	34.8	24.5	77.7	ENE	1.8	6.8	Ci.	E	Cu.	SE, S	-------	≡° a. ⊤ ≲ ☋° p.
13	58.82	28.5	34.2	24.5	82	SSW	2.2	7.7	Ci.-S.		Cu.	S quad.	3.6	☊ ○° a. ● ≲ p.
14	58.86	28.6	34.9	24.6	81.5	SE, SW	1.8	8.5	Ci.-S.		N.	SW	-------	≲ p.
15	57.93	28.3	35.2	23.8	79.5	Variable	1.8	7	Ci.	E	Cu.	SW	-------	☊ a. ≲ p.
16	57.14	28.2	35.7	24	84	SW quad.	1.7	5.3	Ci.	NE, ENE	Cu.	SW	7.1	☊ ≡° a. ● ⊤ ≲ p.
17	56.47	28	34.8	23.5	86.2	SE, SW	1.3	6.5	Ci.	ENE	S.-Cu., Cu.	SW	19.3	☊² a. ⊤ ●² ⌒ p.
18	57.16	28.4	33.8	24.6	86.7	SE, SW	1.7	6.8	Ci.	ENE	Cu., Cu.-N.	SW	4.6	≡° a. ● ≲ ⊤ p.
19	57.27	26.5	33.8	24.5	92.3	SE, S	1	6.8	Ci.	NE	Cu., N.	WSW	19	☊² ≡ a. ● ⊤ ≲ p.
20	57.08	26.3	33.1	23.9	93	SW quad.	1.7	7.8	Ci.-S.	NE	N.	SW	22.3	☊² a. ●² p.
21	57.18	27.1	32.6	22.6	85.8	SW	1.5	7.2	Ci.	NE	N.	SW	4.8	○ ● p.
22	57.62	26.8	34.4	23	87.2	SW	1.5	6.5	Ci.	ENE	Cu.	SW	35.6	☊² a. ⊤ ≲ ●² p.
23	57.96	27.2	34.3	23	85.5	NE, SE	1.2	6.7	Ci.	NE	Cu.	S	3	○ ≡ a. ● ⊤ ☋ p.
24	57.58	28	35.2	23	82.2	S, NE	1.7	5.5	Ci.	NE	Cu.	SSW	-------	☊² ≡ ○ a. ≲ p.
25	57.65	28.8	35.5	23.1	78.5	SE	1.7	4.7	Ci.	NE	Cu.	SW quad.	-------	☊² ≡° a.
26	58.08	29.3	36.1	24.3	75.8	SE	1.3	5	Ci.	NE	Cu.	SW	1.3	☊² ≡° a. ⊤ ≲ d p.
27	57.57	29.7	36.2	24.1	75	SW	1.8	5.3	Ci.	NE	Cu.	SW	.8	≡° a. ●° ≲ p.
28	56.97	29.6	35.7	24.6	75.7	S quad.	2.3	6.7	Ci.	NE	Cu.	SSW, SW	-------	☊ a. p. ⌒ p.
29	57.44	29.1	36	24.2	77.2	S, SW	1.7	7.8	Ci.	NE	Cu.	SW	-------	☊ a. p. ☋² p.
30	58.13	27.8	36.2	23.8	82	N, SW	1.3	7.5	Ci.-S.	ENE	Cu.	SW	19.3	☊ a. ●² ↙ ◪ ☋ p.
Mean	758	28.3	35.4	23.7	81.5		1.6	6.1					-------	
Total	-------	-------	-------	-------	-------		-------	-------					248.3	

Meteorological data for first and second class stations—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.36	26.5	35.2	23.5	90.2	Variable	0.7	9	A.-Cu.	S.-Cu.	60.4	p² ●² ◟ ⌐◪ p.
2	58.96	28.9	37	23.2	81.8	Variable	.5	6.5	Ci.-S., A.-Cu.	S.-Cu.	-------	⌒° ◟° p.
3	58.59	29.6	37.6	24.6	80.7	SE quad.	.7	3.8	Ci., Ci.-S.	Cu., S.-Cu.	-------	◟ p.
4	57.45	29.5	37.7	24	79.2	SE	1.5	6.8	Ci., Ci.-S.	Cu.	-------	☋° ◟° a. ⌒° ⌐◪d° p.
5	57.62	27.8	35.1	24.3	85.2	SE	1.2	8.3	A.-Cu.	Cu.	-------	◟ ┬ d° p.
6	57.51	29.2	37	24	79.2	Variable	1.5	7.3	Ci.-S., A.-Cu.	Cu., S.-Cu.	5.1	┬ a. p. ◟ p° p.
7	57.22	29.5	37.3	24.5	77.5	W	1.2	7.5	A.-Cu.	Cu., S.-Cu.	-------	◟ ┬ p.
8	57.31	28.1	34.3	24	82.7	SE	1	8	A.-Cu.	S.-Cu.	4.1	p ◟ ┬ p.
9	57.72	28.5	34.3	23.9	79.8	SE	1	5.7	Ci., A.-Cu.	S.-Cu.	-------	⌒° ◟° p.
10	57.77	29.8	36.2	24.1	76.3	SE, W	1.3	5.5	A.-Cu.	Cu. SE	-------	◟ p.
11	57.87	29.6	37.7	25	78.7	Variable	.8	6.7	Ci.	Cu. SE	-------	d° ◟ ┬ p.
12	57.87	28.5	34.9	23.5	84	SE, NW	1.3	7.8	Ci.	Cu. SE	63.7	┬° a. p² ● ⌐◪ p.
13	58.02	27.5	34.7	23.8	89	S quad.	1	9.5	A.-Cu.	S.-Cu. SE	3	● ◟ a. ◟° ┬° p° p.
14	58.13	27.1	33.1	23.8	90.3	SE, SW	1	9.5	A.-Cu.	S.-Cu. SE	13.7	● a. ◟ ┬° d° p p.
15	57.29	27.6	34.9	23.4	87	SE quad.	1.2	9.2	A.-Cu.	Cu., N. SE, SW	3	p° ┬° p.
16	56.54	28.2	34.4	24.5	85.8	S quad.	1.2	7.2	Ci.-S.	Cu., S.-Cu.	-------	┬° a. ◟° p.
17	55.83	29.1	34.2	24.7	82.2	Variable	1.3	6.5	Ci.-S., A.-Cu.	Cu., S.-Cu.	-------	◟ p.
18	56.58	28.5	33.7	25	86.3	Variable	1.2	8.3	A.-Cu.	S.-Cu. SW	2.3	p° ◟° p.
19	56.41	27.7	33.8	25	86.3	Variable	.8	7.5	Ci., A.-Cu.	Cu.-N. W	7.6	◟ ┬ p p.
20	56.24	28.2	33.9	24.6	84.7	SE	.7	9.2	A.-Cu.	Cu., S.-Cu. SW	1	d° ◟° p.
21	56.45	26.9	34.9	24.3	88.5	SE	.8	9.3	A.-Cu.	S.-Cu. SW	6.1	p ◟° p.
22	57.02	28	35.4	23.8	83.5	S quad.	1.2	9.2	Ci.-S., A.-Cu.	S.-Cu.	-------	◟° p.
23	57.27	28	35.5	23.7	87.2	S quad.	1	7.7	Ci.-S.	Cu.	8.2	d p ◟ ┬ p.
24	56.96	28	34.6	23.2	84.3	SW quad.	1	7.3	Ci.-S.	Cu. SE	-------	☋ ◟ p.
25	57.03	29.1	35.7	23.9	82.7	Variable	1.2	5.5	Ci.-S.	Cu., S.-Cu.	-------	⌒° ┬° ◡ p.
26	57.47	29.4	35.3	24.2	82	SE, NW	1.3	4.8	Ci.	Cu.	-------	☋ ◟ p.
27	56.90	29.8	36.5	24.9	81.8	SE, S	.8	5.5	Ci.-S.	Cu. SE	-------	d° ⌒ ◟ p.
28	56.35	29	34.8	25.4	85.7	Variable	1	6.8	Ci.-S.	Cu. SE	-------	d° a. ⌒ ◟ ┬° ☋ p.
29	56.86	28.2	34.8	24.8	88.7	SE quad.	1.2	7.8	Ci.-S., A.-Cu.	Cu. SE	1.5	d° p ◟ ┬ ◡° p.
30	57.51	28.3	34.5	24	86	S, W	1	9.2	A.-Cu.	Cu., S.-Cu.	2.3	◟ ┬ p p.
Mean	757.30	28.5	35.3	24.2	83.9	-------	1.1	7.4	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	182	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 9.7 meters; gravity correction not applied, —1.65 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.19	28.5	34	25.2	81.8	SE	1.8	10	Ci.-S.	Cu.-N.	11.4	◡° a. ● ⌐◪ a. p.
2	59.09	29.8	36	24.9	73.8	SE, NNE	2.7	9.2	Ci.-S.	S.-Cu.	-------	⌐◪ d p.
3	58.64	30.8	36	27	71.8	Variable	2.8	9.7	Ci.-S.	Cu.	-------	
4	57.48	30.1	35.9	26	74.2	SSE, W	2.8	10	Ci.-S.	Cu.	18.5	○° ●² ⌐◪ p.
5	57.45	29.4	34.5	25.9	78	S quad.	2.3	10	Ci.-S.	S.-Cu.	.3	⌐◪ d² a. ┬ p.
6	57.58	29.6	34	26.4	78.8	S quad.	3	10	Ci.-S.	Cu.-N.	11.2	┬ a. ● a. p. ⌐◪ p.
7	57.28	29.7	35.1	25.4	75.8	S	2.8	10	Ci.-S.	Cu.-N.	.8	d° ┬ p.
8	57.34	29.1	34.5	25.4	78.5	S quad.	2.3	10	Ci.-S.	Cu.-N.	-------	⌐◪ ●° ⌒ a. d° p.
9	57.73	28.4	34.1	25.5	78.3	SSW	2.8	10	Ci.-S.	Cu. SW	.2	●° a. d° p.
10	58	28.6	34.9	25.1	78.7	S	3.2	10	Ci.-S.	S.-Cu.	8.9	● ◟ p.
11	58.11	29.1	34	25	78.8	S quad.	2.5	10	Ci.-S.	Cu. S	16	☊° a. ⌐◪ ● p.
12	58.11	28.6	33.1	24.1	79.3	SE quad.	3	10	Ci.-S.	Cu.-N.	10.9	● d a. ⌐◪ ●° p.
13	58.05	26.8	29.6?	24.1	87.7	S quad.	2.8	10	Ci.-S.	Cu.-N.	9	◟ d a. p. ⌐◪° ◟ p.
14	58.10	26.4	32.5	23.9	85	S quad.	3.2	10	Ci.-S.	N., N.-cf.	19.1	●° a. ● p.
15	57.19	26.8	33.1	23.9	84.3	S quad.	3.5	9.2	Ci.-S.	Cu. SW	10.2	≡° a. p° ● p.
16	56.50	26.2	29.9	24.1	90.8	SE	2	9.5	Ci.-S.	Cu.-N., Cu.	35.8	⌐◪ a. ● a. p. p° p.
17	55.76	28.2	32.5	24.9	83	SSE, SW	2.5	10	Ci.-S.	Cu. SW	8.1	┬ p a. p° p.
18	56.54	27.5	32	25.2	85	S	2.8	10	Ci.-S.	Cu. SW	7.9	○² ┬ a. ● a. p. ⌐◪°
19	56.20	25.8	31.1	24.9	91.3	S	3.3	10	Ci.-S.	Cu.-N., N.	49.2	⌐◪ a. ● p a. p.
20	56.07	27.6	33.1	24.9	86	S quad.	3.2	10	Ci.-S., A.-Cu.	Cu. SW	2.1	p a. p. ⌐◪° p.
21	56.30	27	32	24.8	83.3	S quad.	3.7	10	Ci.-S.	Cu. SbyW	3.6	p a. p. ⌐◪ ◟ p.
22	56.71	28.3	33.2	25.1	76.5	S quad.	3.7	10	Ci.-S.	Cu. SSW	-------	○² a. ⌒° p.
23	57.10	28.2	33.1	25.3	80.2	S quad.	2.5	10	Ci.-S.	Cu. S, SW	.3	●° a. ○² p° ┬ ◟ p.
24	56.77	28.6	33.5	24.8	77.5	S quad.	2.8	10	Ci.-S.	Cu. S	-------	☊° a. ◟ p.
25	57.06	28.9	34.1	24.9	77.2	S	2.8	10	Ci.-S.	Cu. S	-------	☊ a. ◡² p.
26	57.63	29.1	34.2	25.1	77.2	SW quad.	2.7	10	Ci.-S.	S.-Cu., Cu.	-------	☊ a. ◟ a. p. ☋° p.
27	56.88	28.9	34.6	25.2	78	S	2.5	10	Ci.-S.	Fr.-Cu. S	-------	☊° a. ┬ p.
28	56.33	28.8	33.5	25.5	78.2	S quad.	3.2	9.5	Ci.-S.	Cu. SW	1.8	☊° p a.
29	56.96	28.6	34.4	25.4	77.3	SSE, SW	3.5	10	Ci.-S.	Cu. SW	-------	p° ┬ ◟ p.
30	57.49	28.9	34.6	25.6	76.8	S quad.	2.7	10	Ci.-S.	S.-Cu.	-------	☋ ◡ a. ┬ p.
Mean	757.29	28.4	33.6	25.1	80.1	-------	2.8	9.9	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	225.3	

Meteorological data for first and second class stations—Continued.

BAGUIO. [a]

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1,512.5 meters; gravity correction not aplied, —1.65 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	636.99	18.9	22.8	17.2	89.8	SE quad.	1.2	8	A.-Cu. NNE	Cu.-N. SSE	5.3	☊ a. ● a. p. ⊤ p.
2	37.80	19.2	23.8	16.5	84	Variable	.8	6.9	A.-Cu. N	N. E	2.2	☊ d² a. d ⌐◪ p.
3	37.64	20	25.5	16.7	86	Variable	1	7.4	Ci. N	Fr.-N. WSW	1.8	● ⊤ p.
4	36.59	19.4	25.6	17.4	89.3	W quad.	1	8.9	Ci.-S. NNE	Cu. SE	9.1	⊤ ● ○ p.
5	36.43	19.2	23.5	16.5	90.8	W	1	8.1	A.-Cu.	Fr.-N. W	-------	d° a. p. ≡° p.
6	36.51	19.6	24.8	17	88.8	W quad.	1.3	7.4	Ci. NE	Variable	-------	☊ a. d° ⊤ ≡ p.
7	36.34	19.2	24.9	16.3	88.5	W quad.	1.8	7.3	Ci. NE	Cu.-N. SW, WSW	22.9	☊ a. ⌐◪ ● ≡ p.
8	36.19	18.7	23.8	16.4	92.8	W	1.8	9.1	A.-Cu. SE	Fr.-N. W	4.1	≡° a. p. ● p.
9	36.57	18.5	23.5	15.8	91.7	W	1.2	9	Ci. SE	Variable	19	● a. p. ≡ p.
10	36.82	19	23.7	16.3	88.2	E quad.	1.2	8.7	Ci. ENE	Fr.-N. SW	4.4	○² a. ● ≡° p.
11	36.98	19.3	24.6	16.8	88.8	E	.7	7.9	Ci.	Cu.-N. SW	1.8	⊤° ●° ≡ p.
12	36.69	18.9	24.9	16.7	92.7	SE, WSW	1.7	8.4	Ci.	Fr.-N. WSW	38.4	●² ≡² ⌐◪ p.
13	36.48	18.5	24.6	16.4	92	E, W	.8	9.1	A.-Cu. NW	Cu. SSE	15.5	≡ a. p. ⊤ ● p.
14	36.51	18.2	23	15.6	94.2	W quad.	1.5	9.7	A.-Cu. W	Fr.-N. SW	102.1	● a. ◠° ●² ≡² p.
15	36.96	19.3	25	15.8	82.8	W	2.2	7.4	A.-Cu. NW	Cu. SSW, SW	66.8	●² ≡° p.
16	36.51	18.5	23.3	16.5	92	WSW	2	7.7	Ci.	Cu.-N.	4.9	⊤° a. ● ≡ p.
17	36.10	18.7	23	16.4	93.5	W quad.	2	8.7	Ci. NE	Cu.-N. WSW, NW	9.2	●° ≡° p.
18	36.66	18.6	22.5	16.3	92.8	W	1.5	10	Ci.-S.	Fr.-N. W, WSW	16.2	○° a. ≡² ● p.
19	36.26	17.9	21.5	16.6	97.5	W	2.3	9.9	A.-Cu.	N. WSW	53.3	≡ ●° a. ⌐◪ ●² p.
20	36.20	18.3	21.3	16.5	98	W quad.	2.8	9.7	A.-Cu.	Fr.-N. WSW	23.8	● ↙° p ≡² d°
21	36.31	18.2	23.1	16.2	92	W quad.	1.8	9.7	A.-Cu., A.-S.	Fr.-N. WSW	7.7	≡° d° ●° ⊤° p.
22	36.79	18.8	24.8	15.4	85.8	W quad.	1.5	9.4	A.-Cu. E	S.-cf. SE	32.8	○° a. ● p.
23	36.10	18.9	25.2	15.8	84.8	SE quad.	1.2	8.9	Ci.	Cu. SSW	5.8	○° a. ● ⊤ p.
24	35.92	19.6	24.7	17	82.3	Variable	1.2	9.1	Ci.-S. ESE	Cu.	4.6	≡ d ● p.
25	36.11	19.1	25	16.3	86.3	E, W	1.2	7.6	Ci.-S.	Fr.-N. WNW	1.3	○° a. ●° ⌐◪° p.
26	36.43	19.3	23.7	16.7	92	W quad.	1.3	8.4	Ci.	Cu.	-------	≡ p.
27	35.92	19.7	25.3	16.8	85.5	E, W	1	7	Ci.-S. NE, ENE	Cu.-N. W	-------	☊ ○° a. ≡° ⌐◪° p.
28	35.36	19.5	24.7	17.1	87.2	SE quad.	1.2	8.1	Ci.	S.-Cu. S, SE	-------	☊ a. ≡° ⊤ p.
29	35.67	18.8	24.3	16.5	91.5	W	1.2	8.9	Ci.-S. NE	Cu. S	-------	☊ ○° a. ⊤ ≡ d° p.
30	36.21	18.9	23.6	16.8	92.2	SE quad.	1.3	9.3	Ci.-Cu. NE	S.-Cu. SE	12.2	☊ a. ≡ ● a. p. ⊤ p.
Mean	636.20	19	24	16.5	89.8	-------	1.4	8.5	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	465.2	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 14.7 meters; gravity correction not applied, —1.61 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.47	29.2	35.8	24.8	76.3	Variable	1.3	7.5	Ci.-S. NE	Cu. SW	3.3	⌐◪ d ●° ↙ p.
2	59.33	29.6	35.1	24.7	75.7	NNW	1.2	4.8	A.-Cu. SSE	Cu.	-------	
3	58.97	29.4	34.7	25.5	77.2	N quad.	1	4.5	Ci. NE	Cu.	-------	
4	57.80	29.2	34.2	25.7	78	Variable	1.3	6.2	Ci.-S. NE	Cu.	-------	⌐◪ p.
5	57.58	29.8	34.8	26.3	75.2	S quad.	.8	5.8	Ci. ENE	Cu. SSW	-------	d° ◠ ↙ p.
6	57.68	29.4	34.8	24.8	78	SE quad.	1.3	6	Ci. NNE	Cu. SSW	2.1	⌐◪ d p.
7	57.42	29.6	34.7	24.1	76.7	S quad.	1	5.7	Ci. NNE	S.-Cu.	.3	d a. ↙ p.
8	57.56	28.4	32.7	23.5	86.7	S quad.	1	7.3	A.-Cu. SSE	Cu.-N. SbyW	17.9	⌐◪² ●² a. ↙ p.
9	58.12	28.3	32.3	24.7	85.2	SE quad.	1.3	8.7	A.-Cu. SSW	Cu., Cu.-N.	6.6	● a. p. d° ⌐◪ p.
10	58.28	28.6	33.5	24.8	84	S quad.	1.3	5.3	Ci. NNE, NE	Cu. SSW	5.1	⌐◪ ● d p.
11	58.40	29.4	34.7	25.5	79.3	E quad.	1	5.8	Ci.-S. E, ENE	Cu. SSW	-------	↙ ◠ ⊕ a. p. ⌐◪ p.
12	57.91	29.1	34.4	24.2	81.2	N quad.	1.2	4.8	Ci.	Cu. SW, NW	21.5	⌐◪² ●² ↙² p.
13	58.16	28.1	32.1	24	85.2	SE quad.	1.5	8.2	A.-Cu. SSW	Cu. SW	9.7	● ↙ p.
14	58.17	26.6	31.2	23.8	92	SE, SW	1.7	9.3	A.-Cu.	N., Cu. SW, SSW	19.8	● d° a. p. ↙° ●² p.
15	57.06	28	32.5	24.5	82.8	S quad.	1.5	6.7	A.-Cu. NE	Cu. SSW	.3	○ a. p. d ↙² p.
16	56.19	28.8	31.6	25.6	81.5	S quad.	1.8	6.3	A.-Cu.	Cu.-N. SSW	.3	↙° ⌐◪ ●° a.
17	55.79	29.4	32.8	25.3	81.7	S quad.	1.8	3.5	Ci. N, NE	Cu. SW	-------	d° p.
18	56.49	29	32.8	26.8	85.2	S quad.	1.7	6.8	A.-Cu. W	Cu. SSW	-------	d° a. ⊤ ↙ p.
19	56.14	27.5	31.5	23.3	87.7	SSE	2	7.7	Ci.-S. NE	Cu.-N. SSW	19.7	◠ ⌐◪² ● a. p. ↙° p.
20	55.74	28.6	32.5	25.8	82.8	SSE	2	8	A.-Cu. SW, WSW	Cu. SSW, SW	.8	d ⌐◪ ↙ ⊖ p.
21	56.09	28.7	32.7	24.7	81.2	SSE	3	8	Ci. NE	Cu.-N. SSW	16.6	⌐◪² ●² ↙° d p.
22	56.84	28.4	32.5	25	82.2	SSW	1.8	6.8	Ci. NE	S.-Cu. SE	-------	↙° a. ⌐◪ d° p.
23	57.08	28.9	32.8	24.7	79.3	S quad.	1.5	6.2	Ci. NE	Cu.	-------	d° ↙ ∪ ⊖ p.
24	56.95	28.5	32.8	24.9	85	S quad.	1.3	6.5	Ci. NNE	Cu. SSW, SW	3	⌐◪ ● ↙ d° p.
25	57.09	28.6	32.8	25.3	84.2	SW quad.	1.3	5.3	Ci.-S. NE, NNE	Cu. SSW, SW	-------	
26	57.74	29.1	33	25.3	81.2	SE quad.	1.3	4.7	Ci.-S.	Cu. SW	-------	
27	56.92	29.1	33	25.8	79.8	S quad.	1.3	5.3	Ci. NNE	Cu. SSW, SW	-------	d° ◠ ⌐◪ p.
28	56.40	29	32.8	25.9	80.5	SSW	1.5	7.3	Ci.-S.	Cu.-N., Cu. SW	3.1	◠ a. ⌐◪ a. p. d p.
29	56.97	27.5	32.8	23.5	89.7	SE quad.	1.7	8	Ci. NNE	Cu.-N., Cu. SSW, SW	23.2	● a. ⌐◪² ●² d ↙ p.
30	57.55	28.1	32	23.8	85.5	SSW	1.3	7.8	Ci.-S.	Cu. SSW	9	d° ⌐◪ ● p.
Mean	757.36	28.7	33.2	24.9	82	-------	1.5	6.5	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	162.3	

[a] The barometric readings of this station are not reduced to sea level.

Meteorological data for first and second class stations—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1..	759.18	26.7	36.3	22.8	85.3	E, N	0.3	7.7	Ci. N	Cu.-N. NW, W	3	●° a. ⌐⌙² ⊕° p p.
2..	59.91	28.4	37.2	23.6	78.5	S, NW	.8	6.5	Variable.	S.-Cu. S	-------	☊° a. ⊤° ⌒° p.
3..	59.23	28.8	37.5	24.8	76.7	SE	1	5.2	Ci., Ci.-S.	Cu.-N. N	-------	☊° a. ⊤° ⌒° p.
4..	57.86	28.9	38.1	24.1	75.2	SE	.8	5.5	Ci.-S.	Cu.-N. SW	-------	☊² a. ⊤° ⌒ p.
5..	57.82	28.3	37.1	24.2	76.5	S quad.	.8	6.3	Ci.	Variable. SW, N	-------	⊤° ⌒° p.
6..	57.86	28.8	38.6	24.1	75.5	SE quad.	1	6.2	Ci. NE	Cu.-N. N	-------	☊° a. ⌐⌙° ⌒² p.
7..	57.63	29.1	38.5	24	74	NW	1.2	6.2	Ci. N	Variable. S, NW	-------	⌐⌙° ⌒² p.
8..	57.26	28.6	38.6	23.7	75	Variable	1	7.5	A.-Cu. E	Cu.-N. NW	-------	⌒° a. ⌐⌙° d° ⌒° p.
9..	57.64	28.7	38.5	23.5	73.8	Variable	.7	6.8	Ci.	Cu., Cu.-N. S, NW	-------	☊° a. ⌒² ⌐⌙° ⌒² p.
10..	58.06	29.3	38.2	24.5	73.7	SE	1	6.8	Ci.-Cu. NE	Cu.-N. NW	-------	☊° a. ⌐⌙° ⌒° ⌒² p.
11..	58.54	29.5	37.5	25.5	72.2	N quad.	1.2	7	Ci.-S.	Cu.-N. N	-------	d° a. ⊤° ⌒° p.
12..	58.19	29.2	39.6	24.2	75.7	SE, NE	.7	8.3	Ci.	Cu.-N. Variable	8.1	⌐⌙° ⌒° ●° ⌒° p.
13..	57.89	28.1	37.8	24.3	83.5	N quad.	.8	6.7	Ci., Ci.-S.	Cu.-N. N	-------	⌒° ⌐⌙° d° ⌒° p.
14..	57.68	28.4	37	24.6	81.2	SE, N	.3	8.3	Ci., Ci.-S.	Cu.-N. NW	-------	☊° a. ⌒° ⌐⌙ d° p.
15..	56.70	29.2	39.2	25	76.3	S	.7	7.7	Ci.-S.	Cu.-N. W	-------	d a. ⌒ p.
16..	55.62	29.6	38.8	24.5	74.2	SW, S	.3	6.8	Ci., Ci.-S.	Cu.-N. NW	-------	⌒ p.
17..	54.81	30.2	38.8	24.6	73.2	N quad.	.8	5.8	Ci.	Cu.-N. NW	-------	⌒ p.
18..	55.56	31	38.9	25.2	67.8	SE quad.	.7	8	Ci.-S.	Variable	-------	☊° a. ⌐⌙ p.
19..	54.90	31.6	39	25.6	64.7	NW	.8	7.3	Ci.-S.	Cu.-N. NW	-------	⌒ ☊° a. ⊤ ⌐⌙ p.
20..	54.51	31.3	41.1	24.7	66.2	SE	.8	6	Ci.	Cu., Cu.-N. W, S	-------	d° ⌐⌙ ⌒ p.
21..	55.07	29.6	38.5	24	72.5	SE	.8	8.7	Ci.-S.	Cu.-N.	34.3	d ⌐⌙ ⌒ ●² ⌒ p.
22..	56.80	27.9	36.1	24.1	82.3	S quad.	.7	8.3	Ci., Ci.-S.	Cu.-N. SE	-------	●° ⌒² a. d ⊤ ⊕² p.
23..	57.02	29.2	36.8	24.3	75	S	.7	5.5	Ci.-S. N	Cu. S	-------	∪ ⌒ p.
24..	56.85	28.2	38.5	23.6	75.3	SE quad.	1.7	6.8	Ci., Ci.-S.	Cu. SE	-------	☊ a. ⌒ p.
25..	57.02	28.5	39.5	23.4	72	SE quad.	1.3	5.5	Ci. E	Cu.-N. NW	-------	☊ a. ⊤° ⌐⌙° p.
26..	57.21	30.2	39.2	24.4	70	SE, NW	.8	5.7	Ci.	Cu. S	-------	☊° a. ⊤ ⌒ p.
27..	56.76	28.4	39.1	23.8	72.3	S quad.	1	4.8	Variable.	Fr.-Cu., Cu.-N. SSW, N	-------	d° ⌐⌙ ⌒ p.
28..	56.02	29.7	40	23.9	72.8	W quad.	1	6	Ci.	Cu.-N. N	-------	⌒² p.
29..	56.77	29.2	39.4	22.6	73.3	S quad.	1	7.7	Ci. E	Fr.-Cu, Cu.-N. SE, SW	11.9	⊤ ●° ⌐⌙ ⌒² p.
30..	58	27.5	39.6	22.6	78.8	Variable	.8	6.8	Ci., Ci.-Cu.	Cu.-N. SE	3	⊤ ●° ⌐⌙ p.
Mean	757.15	29.1	38.4	24.1	74.8	-------	.8	6.7	-------	-------		
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	60.3	

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1..	758.62	27.4	33.2	23.2	79.5	S	1.3	7.7	Ci. W	S.-Cu. SW	-------	⊤ ⌐⌙ p.
2..	59.41	27.8	33.8	23.7	81.3	S	1.3	3.2	Ci., Ci.-S. NE, SW	S.-Cu.	-------	⌒ ⌒ ⊤ p.
3..	59.08	27.5	34.8	24.6	83.7	Variable	1	5.3	Ci. NE	S.-Cu., Cu.-N. W, S	17.3	⌒ a. ⌐⌙ ● p.
4..	57.59	27.4	35	24.3	82.8	W, S	1.5	4.8	Ci.-S. NE	Cu.-N. S	-------	⌐⌙ ⌒ p.
5..	57.34	27.5	34.2	24	82.3	SW quad.	1	4.5	Ci.	S.-Cu. S	-------	⊤ ⌒ ⌒ p.
6..	57.59	28.2	34	24.1	79.7	SW, NE	1.3	5.7	Ci. NE	S.-Cu. SW	3.8	⊤ ● ⌒ p.
7..	57.14	28	34.2	24.2	81.3	S	1.7	6.2	Ci. SE	S.-Cu. SW	18.6	⊤ ⌐⌙ ● ⌒ p.
8..	56.62	27.7	34.5	24	81.8	NE, S	1.3	6.8	Ci. SE	Cu.-N. SW, W	-------	⊤ ⌐⌙ p.
9..	57.14	26.8	33.4	24	85.2	S	1.8	7.5	Ci., Ci.-S. NE	Cu.-N. W	18.3	⌐⌙ ● ⌒ p.
10..	57.90	28.2	34.2	24.1	80.3	Variable	1	4.5	Ci. NE	S.-Cu. SW	-------	⊤ ⌒ p.
11..	58.31	27.8	34.2	24.9	83.3	SW, W	.8	4.5	Ci., Ci-S. NE, E	S.-cu., Cu.-N. W, S	-------	⊤ p.
12..	58	28.6	33.3	24.6	80.3	Variable	1	5.8	Ci. NE	Cu.-N. S	-------	⌐⌙° a. ⊤ ⌒ p.
13..	57.66	28.6	33.6	25	80.2	Variable	1	7.2	Ci.	S.-Cu. W	1	⌒ a. p. ⊤ p p.
14..	57.38	27.4	33	24.6	84.7	S	1.2	9.2	Ci.-S., Ci. E, SE	Cu.-N., Cu. S	16.2	☾ a. p. ⌐⌙ ● ⌒ p.
15..	56.20	28.2	33.8	24.4	81.7	S	1.3	9	Ci.-S., A.-Cu. NE, SW	S.-Cu. SW	.5	☾ a. ⊤ p p.
16..	55.18	29	33.5	24.8	78.2	SW quad.	.8	5.3	Ci.-S. S, W	S.-Cu.	.5	p p.
17..	54.31	29.6	34.5	25.7	77.5	Variable	1.3	4.8	Ci. E	Cu.	-------	⌒ p.
18..	55.12	29.3	34.4	25.2	77.3	Variable	1.2	6	Ci.-S. NE, E	Cu.-N. W	-------	⌒ p.
19..	54.41	29.8	34	26.1	76	Variable	1.5	5.5	Ci., Ci.-S. E	S.-Cu.	-------	⌒ a. ○ ∪ p.
20..	54.06	29.7	34.6	25.1	75.3	S quad.	1.5	4.2	Ci. E	S.-Cu. W	-------	⌒ p.
21..	54.54	29.3	35.2	25	72.7	S	1.5	10	Ci., Ci.-S. NE	S.-Cu. W	-------	☾ a. ⊤ ⌒ p.
22..	56.32	27.5	33.6	24.7	82.5	S	1.3	9.2	Ci.-S. NE	S.-Cu.	13	⌒ ☾ a. ⌐⌙ ● ⌒ p.
23..	56.55	27.9	33.2	24.1	81.2	S	1.2	6.3	Ci. NE	S.-Cu. SW	-------	☾ a. p. ⌐⌙ ☋ ⌒ p.
24..	56.42	28.3	33	24.5	78.3	S	1.5	7.2	Ci., Ci.-S. E	S.-Cu.	-------	☾ a. ⌒ p.
25..	56.44	29	33.7	24.6	79.2	S	1.8	3.2	Ci.-S.	S.-Cu. SW	-------	⌒ ☋ p.
26..	56.98	29.2	33.7	25.1	77.3	S, NE	1.3	6.2	Ci., Ci.-S. NE	S.-Cu. W	-------	☾ a. p. ⌒ p.
27..	56.28	28.6	33.7	23	78	S	1.3	3.8	Ci.	Cu.-N.	14	⌐⌙ ● p.
28..	55.95	28.3	34	23.5	78.8	SW, NE	1.3	5.5	Ci. E	Cu.-N. NE	-------	⊤ ☋ ⌒ p.
29..	56.63	28.4	33.5	23.6	82.2	S, NE	1.3	8.8	Ci.-S. E	Cu.-N. NE, SSW	8.1	⌐⌙° a. ○ ⌐⌙ ● ⌒ p.
30..	57.39	27.3	33.7	22.6	81.3	S	1.2	8.5	Ci. E	Cu.-N. SW, NE	52.8	⌐⌙ ●² p.
Mean	756.75	28.3	33.9	24.4	80.1	-------	1.3	6.2	-------	-------		
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	164.1	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	23.1	-----	77	3	5	------	☊ a.
2	------	23.1	97	74	1	3	2	☊ a. ● ☿ ⊤ ◟ p.
3	------	23.1	98	75	1	6	------	⊤ a. ◟ p.
4	------	23.9	98	73	10	4	2.5	⊤ ●° a. ◟ a. p.
5	------	23.4	98	81	10	10	7.4	⊤ d a. ● ◟ p.
6	------	22.1	98	69	1	9	------	☊ a. ◟ p.
7	------	23.1	98	89	10	10	9.1	☊ ⊤ a. ● p.
8	------	22.1	97	68	0	10	------	☊ a. ◟ p.
9	30.1	22.7	98	97	10	10	34.8	☊ a. ◜◝ ●² p.
10	30.8	22.6	97	90	10	10	.8	d a. ⊤ ●° p.
11	31.6	23.1	96	82	9	10	42.4	☊ a. ●² ⊤ d ◟ p.
12	32.1	23.1	-----	70	10	9	4.1	☊ a. ●° p.
13	30.8	22.6	-----	96	9	9	22.8	☊ ● a. ●° p.
14	33.3	22.3	97	71	1	3	8.9	● a. p ⊤ p.
15	32.6	22.6	97	72	0	10	4	☊ a. p p.
16	30.6	23.5	88	95	10	10	6.6	●° a. p. p p.
17	30.1	22.5	96	88	9	10	14.2	☊ a. ● p.
18	31	22.3	96	83	1	10	18.1	☊ ● a. p p.
19	30.6	22.5	96	79	2	9	44.4	☊ ●² a.
20	31.1	22.6	96	83	2	10	29.5	☊ a. ●² p.
21	31.1	21.3	-----	81	3	4	10.9	☊ a. ● p.
22	31.2	21.9	-----	75	10	10	12.7	☊ ● a.
23	30.6	23.1	92	84	9	10	17.8	☊ a. ● p.
24	30.6	23.1	96	83	10	10	.8	⊤ a. p°. p.
25	29.6	23.6	98	70	10	10	8.9	p° a. ●° a. p.
26	30.2	22.8	98	91	10	10	20.8	d ⊤ a. ● a. p.
27	31.2	22	-----	74	10	10	------	☋ p.
28	32.8	22.5	99	70	3	7	------	☊ a.
29	30.6	23.1	98	75	10	10	------	p° a.
30	33.1	21.6	96	87	1	10	5.8	☊ a. ●° p.
Mean	31.2	22.7	96.6	80.1	6.2	8.6	------	
Total	------	------	-----	-----	-----	-----	329.3	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.5	24.2	93	75	9	1	------	◟ p.
2	30.5	24	91	69	7	6	1.5	◜◝ p.
3	30.8	24.4	94	73	9	2	------	●° a.
4	29.8	24	84	73	10	10	9.9	d ● a. ◟ p.
5	29.1	24.4	86	77	10	10	------	p a.
6	30.7	23	91	71	3	4	------	◟ p.
7	29.5	24.2	89	72	7	10	------	d p.
8	30.3	23	90	75	2	9	------	
9	30.1	24.1	91	73	7	10	------	
10	29.5	23.9	88	75	10	8	3.3	●° a.
11	30.6	23.4	89	71	10	8	.5	p p.
12	30.6	24	92	71	10	10	------	
13	30.3	23.8	91	73	6	9	19.6	d ● p.
14	31.4	23	95	81	7	2	------	p a.
15	31.2	23.5	86	67	3	2	10.9	
16	30	23	89	66	10	9	1	● a.
17	29.2	23.6	85	68	7	8	------	d° p.
18	31.3	23.6	85	71	2	3	------	
19	29.2	23.4	87	76	5	9	------	
20	29.6	23.5	89	76	8	9	------	
21	30.7	23.4	90	69	7	8	------	
22	30.2	23.5	88	75	10	10	------	
23	30.5	23.6	89	70	7	8	------	
24	29.6	------	87	-----	10	-----	------	d a.
25	28	------	86	87	10	10	11.4	● d p.
26	29.2	22.4	91	78	10	9	.3	●° p.
27	28.7	23	87	77	10	9	------	
28	30.1	24	89	75	9	6	------	
29	28.9	24.3	90	85	9	10	------	d a. p.
30	30.5	23.4	82	76	6	6	------	
Mean	30	23.6	88.8	74	7.7	7.4	------	
Total	------	------	-----	-----	-----	-----	58.4	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6. a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.7	21.8	96	64	7	5	------	
2	31.7	22.4	92	70	5	6	------	
3	33.7	22.3	97	66	5	6	------	◜◝ p.
4	32.5	22.8	96	59	5	5	10.4	● p.
5	31.7	23.5	96	70	6	5	2.8	● a. ●° p.
6	32.2	23.1	95	69	5	7	------	⊤ p.
7	31.8	22.8	96	75	6	5	------	
8	31.6	23.9	96	70	7	6	------	
9	33	22.5	96	68	5	5	28.2	
10	31.5	22.9	96	72	6	9	------	●² ◜◝ a.
11	29.7	22.9	96	76	5	8	10.9	● p.
12	31.2	22.1	97	75	6	5	------	
13	32	22.3	93	72	5	6	------	
14	32.2	22	96	66	5	5	------	
15	32.2	23.2	96	79	8	7	------	d a.
16	31.2	23.8	93	75	8	7	------	d ◠ a.
17	29.7	22.5	96	69	6	7	------	d p.
18	31.8	22.5	96	63	5	6	------	d a.
19	32.2	22.6	96	62	8	6	------	d p.
20	30.8	22.9	96	72	7	7	------	
21	31.9	22.4	95	66	5	7	10.7	● p.
22	32.2	22.6	96	70	7	6	------	● a.
23	31.8	22.6	96	66	6	7	------	
24	32.2	22.2	96	67	5	5	27.2	●² ⊤ p.
25	30.6	21.5	96	79	7	9	------	
26	30.9	23	96	77	8	7	6.6	●° ◜◝ p.
27	31.2	22	96	64	8	8	1.3	●° p.
28	30.6	22.4	96	71	6	5	------	
29	29	21.4	96	76	9	8	------	
30	31.5	21.3	96	69	5	5	------	
Mean	31.6	22.5	95.7	69.9	6.2	6.3	------	
Total	------	------	-----	-----	-----	-----	98.1	

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.1	22.8	93	58	7	5	------	☊² a. ☋ ☾ p.
2	34.5	24.2	92	58	7	6	2	☊ a. ⊤ ●° p.
3	34.5	23.2	93	60	4	6	1.3	◜◝ p.
4	33.8	24.2	94	66	8	7	1.5	●° a. p. ◜◝ p.
5	33.4	24.9	93	69	9	7	------	◜◝ p.
6	33.5	24.2	92	69	8	8	------	◠² ◜◝ p.
7	30	24.7	90	79	10	9	------	◜◝ p.
8	29.8	24.1	95	78	10	9	------	⊤ a. ◜◝ p.
9	34	24	92	66	10	8	5.8	◜◝ p.
10	32.3	24	93	74	10	8	4.3	●° a. p.
11	32	23.5	97	68	8	9	1.8	≡ a. ●° p.
12	32.1	22.4	96	68	10	8	2.5	●° p.
13	32.3	22.7	97	65	9	8	1	◟ p.
14	33.1	22.2	93	60	5	6	5.1	●° a. ◟ p.
15	33.5	24.1	93	65	10	7	12.7	● a. p. ◜◝ p.
16	30.5	24.5	93	74	7	8	4.8	● a. ●° a. p.
17	31.4	22.1	97	69	9	8	14	● ◜◝ p.
18	32	22.3	96	64	8	6	------	≡° a.
19	31	24	92	69	9	5	3	◟ p.
20	31	23.2	93	73	10	7	1.3	●° ◠² a. ◟ p.
21	33	23.1	94	63	8	6	------	◟ p.
22	33.5	23.5	93	65	8	7	------	◜◝ p.
23	33.1	23.6	94	64	6	5	2	●° ◜◝² p.
24	32.1	24	92	65	9	6	43.2	●² ◜◝² p.
25	31.5	22.1	94	75	9	8	53.6	●² ◜◝² p.
26	31	22.7	96	71	10	7	3.8	●° p.
27	30.5	23.2	94	66	8	4	------	☋ ☋ p.
28	31.2	23.2	93	78	8	8	53.3	☊ ● a. ●² p.
29	30.4	22.7	97	77	10	9	5.1	●° ⊤ p.
30	32	22.4	97	67	5	8	------	◟ p.
Mean	32.2	23.4	93.9	68.1	8.3	7.1	------	
Total	------	------	-----	-----	-----	-----	222.1	

Meteorological data for third and fourth class stations—Continued.

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	35.4	23.9	98	55	6	3	6.4	☊² a.
2	34.6	25.8	97	65	8	6	30.2	●° a. d° ↘ p.
3	35	24.7	97	65	4	5	.5	⌐◪ ●² a. ┬ ↘ p.
4	35.5	25.2	96	70	10	6	7.6	d° ⌐◪ ●° ⌒ a. ↘ p.
5	34.7	25.3	96	76	8	6	------	☊ a. ↘ p.
6	36	24.4	97	52	6	5	------	☊² a. ↘ p.
7	33.2	24.9	94	77	7	9	------	☊ a.
8	33.5	24.7	97	74	4	9	.8	≡° ☊² ●° a. ↘ p.
9	34.9	24	96	63	5	3	6.6	☊ a. ┬ ↘ ●° p.
10	33.7	25.4	96	72	10	4	1.5	●° a. ┬ ↘ p.
11	34.4	24.2	94	69	9	8	17.8	●° a. ┬ ↘ ● p.
12	34.2	23.2	97	63	5	6	13.7	⌐◪ ● a. ⌒ ↘ p.
13	34.3	23.3	95	74	5	10	45.7	⌒ a. ┬ ●² p.
14	34.7	22.8	97	58	3	4	------	☊² a.
15	35.1	24.2	97	60	4	3	------	☊² ≡° a. ┬° ↘ p.
16	34.3	25.7	93	64	9	4	27.9	☊° ┬ a. ⌐◪² ●² p.
17	33.7	23.8	97	87	6	8	.5	≡ a. ┬ p p.
18	34.5	23.9	97	64	5	5	------	☊² a. ⌒ p.
19	33.7	25.1	94	69	4	6	.8	☊ a. ┬ ↘ p p.
20	34.4	24.8	95	66	7	4	------	☊ a. ┬ ☋ p.
21	34.6	24.6	96	65	10	8	------	☊² a. ☋ p.
22	34.7	24.4	95	65	4	4	------	☊ ┬ d a. ↘ p.
23	34.8	24.7	97	60	5	3	------	☊ ┬ ↘ a.
24	34.7	24.9	94	66	6	4	------	☊ d° a. ┬ p.
25	33.7	24.8	97	72	9	4	45	☊² ≡° ●° a. ⌐◪ ●² p.
26	33.2	23.4	98	71	5	7	9.4	≡° a. ●° ↘ p.
27	32.9	23.2	98	66	6	3	------	☊² ≡° a.
28	33.8	23.9	96	81	5	7	------	☊ a. p ☋ ↘ p.
29	32.6	24.2	97	76	6	7	19	☊² a. ┬ ● p.
30	33.7	22.6	97	60	8	5	1.3	☊² ≡ a. ☋ p.
Mean	34.3	24.3	96.2	67.5	6.3	5.5	------	
Total	------	------	------	------	------	------	234.7	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	37.6	24.3	90	54	6	4	------	☊ a.
2	36.3	24.8	88	69	3	9	------	☊ a. ┬° ●ᶜ p.
3	37	24.2	89	49	1	7	------	●° a. p. ↙° ┬² ↘ p.
4	36.6	24.8	87	64	3	7	0.3	☊ a. ●° ↘ p.
5	36.5	25	90	66	1	6	1.5	☊ a. ⌐◪ ●° p.
6	35	24.4?	95	68	4	6	------	●° ┬ a. p. ┬² p.
7	35	24.6	90	61	7	8	------	☊ ⊕ a. ┬² ↘ p.
8	33.6	25.4	91	59	8	7	------	☊° ⊕ a. ┬ ↘ p.
9	35	24.5	92	54	8	5	------	☊ a. ┬ ↘ p.
10	33.6	25.2	88	78	8	7	4.3	☊° a. ┬ ●° d° ↘ p.
11	33.4	24.4	95	64	10	10	23.9	●° a. p. ●² ┬ p.
12	34.5	23.5	95	62	2	8	------	☊ a. ┬ ⌒ p° p.
13	35	23.5	92	59	7	7	------	☊ ⊕ a. ⌒ ┬ ↘ p.
14	36.3	23.8	94	52	10	6	17.3	☊ a. ┬² ● p.
15	35.1	24	92	62	2	3	4.6	☊ a. ⌒ ●° ┬ p.
16	34.6	24.9	93	61	3	5	14	☊ a. ┬² ↘ ● p.
17	27.6	23.1	95	82	9	10	------	☊ a. d° p.
18	34.5	24.5	91	61	2	3	------	☊ a.
19	34.1	25.1	92	63	3	5	------	☊ a. ⌒ ┬ ●° ↘ p.
20	34.3	23.8	93	61	3	7	------	☊ ⊕° a. ┬ ⌒ ●° d° p.
21	36	24.7	92	71	3	8	------	☊ a. ┬ ⌒ d° ☋ p.
22	33	24.7	92	68	7	7	1.8	☊ ○ a. ┬ ●° ↘ ☋ p.
23	35.4	24.4	94	60	1	4	------	☊ a. ⊕ p.
24	35.6	23.3	91	50	2	7	------	☊ a. d° ○ ●° ☋² p.
25	34.5	23	91	88	2	8	11.9	☊ ●° a. ┬² ● ↘ p.
26	34.6	23.5	97	60	7	7	1.3	☊ d° a. ┬² ●° ↘ p.
27	33.8	22.9	94	71	7	8	.5	☊ a. ┬² ●° p.
28	------	22.8	91	54	7	6	.5	☊ a. ↘ ┬ ●° ☋ p.
29	32.1	23.4	91	77	10	10	.3	☊ a. ●° a. p.
30	34	22.3	95	67	3	9	4.6	☊ a. ●° p. ↘ ┬ p.
Mean	34.6	24.1	92	63.8	5	6.8	------	
Total	------	------	------	------	------	------	86.8	

DUMAGUETE.

[ϕ=9° 18′ N; λ=123° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.4	25.2	89	77	8	4	------	⌐◪ ● a.
2	31.6	26.3	-----	72	8	7	------	◡° ↙° p.
3	31.8	27.3	-----	71	8	6	3.6	↙° p.
4	31.8	25.8	80	70	8	6	------	● a. ↘ p.
5	32.9	25.4	75	63	9	9	------	⌐◪ a. ↙° p.
6	32.4	24.7	78	66	9	7	------	↘ p.
7	32.1	25.8	76	71	9	10	------	○° ↙° p.
8	32	24.3	74	68	10	10	------	○° a. ┬° a. p. ↙° p.
9	32.7	23	75	66	7	5	.8	↙° p.
10	31.4	25.3	83	69	10	9	83.5	⌐◪° ●° ○ a. ⌐◪ d° p.
11	30	21.8	90	76	10	10	.7	⌐◪² ●² a. ○ a. p. ↘ d p.
12	32.4	24.2	84	62	10	8	11.4	d° ● p.
13	33.1	23.4	82	63	8	8	------	☊ a. p.
14	32.2	23.8	78	69	7	4	------	☊° a. ↙° p.
15	32.6	24.5	79	72	9	4	------	☊° a. ☊ ↘ p.
16	32.2	25.4	74	69	10	5	------	d° a. ↘ p.
17	31.6	24.1	78	67	6	10	------	☊° ○° a. ○ ↙° p.
18	34.1	23.8	78	59	9	7	------	┬° d° a.
19	33.6	24.7	76	61	9	9	------	↘ p.
20	32.6?	24.7	78	60	10	9	------	○ a. ☊ p.
21	33.2	-----	85	63	10	9	------	☊ ○° a. ┬ a. p.
22	32.6	23.8	80	70	9	10	------	☊° a. ↙° p.
23	32.3	23.8	80	70	9	5	------	┬° a. ↙° p.
24	33.1	24.5	73	68	9	9	------	☊ p.
25	------	------	75	-----	10	8	27.2	┬ d a. ○ ⌐◪ ● p.
26	31.2	------	-----	71	5	7	------	○ a. p. ⌐◪ d° p.
27	32.6	24	88	74	10	5	------	☊ a. ☋ p.
28	32.5	23.8	86	72	9	8	------	☊° a. ↙° p.
29	30.3	24.3	90	84	8	10	------	☊ d² a. d° p.
30	30.8	23.3	83	76	10	9	------	☊ a. ○ ↙ p.
Mean	32.2	24.5	80.3	68.9	8.8	7.6	------	
Total	------	------	------	------	------	------	127.2	

YAP (WESTERN CAROLINES).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32	24.4	83	68	5	6	------	☊° a. ☋ p° p.
2	32.4	25.5	81	69	4	7	------	☊° d° a. ⌒° p° p.
3	33.1	25.4	87	72	6	7	------	☊ p° a.
4	32.8	24.9	91	67	4	6	0.3	☊° d a. v p.
5	32.8	23.7	89	65	3	7	------	☊ a.
6	33.2	24.3	88	63	2	2	------	☊ a.
7	34.9	24.6	93	65	2	8	7.9	☊ a. p p.
8	32.9	23	91	80	10	10	.3	●° a. d p.
9	30.6	24.4	78	74	10	10	.3	d p.
10	31.1	26.2	84	76	9	10	6.6	●° a. p.
11	31.8	24.6	85	70	8	7	1	●° a.
12	32.7	25.9	84	71	4	5	------	
13	32.8	23.5	88	64	8	5	2.8	
14	32.4	25.2	80	66	4	9	4.1	●° p a.
15	32	23.7	92	77	10	7	3.8	●° a. p.
16	32.7	26.1	75	69	7	8	2.5	d p.
17	32.5	24.1	92	69	10	8	3.1	●° a.
18	33.2	23.1	85	66	8	2	------	d a.
19	33.6	25.3	81	63	9	9	2.8	
20	32.9	26	90	65	9	9	------	●° ⌒ d° a. p° p.
21	33.4	24.4	88	63	8	9	------	
22	33.6	24.3	84	68	5	10	------	☊ a. ☋ p p.
23	33.7	25.2	88	60	10	7	3	p a.
24	33	25.4	81	64	6	6	------	●° a. ☋ p.
25	33.5	25	85	64	4	9	4.8	● p.
26	33.1	26	78	65	10	9	8.6	● ⌒ p.
27	33.1	23.2	96	98	10	10	57.7	●° a. ●² ☋ p.
28	------	------	94	-----	10	10	.3	p² a.
29	31.9	23.9	86	85	10	10	24.4	● a. p. ┬ ↘ ☋° p.
30	29.3	24	88	88	10	10	10.4	● a. p.
Mean	32.7	24.7	86.2	70.1	7.2	7.7	------	
Total	------	------	------	------	------	------	144.7	

Meteorological data for third and fourth class stations—Continued.

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.5	25	95	73	10	5	------	⊤ ☾² p.
2	34.4	25.2	89	74?	10	10	------	
3	34	25.1	90	73	10	10	------	☌² p.
4	34.5	25.1	90	81	10	10	------	☿² a. ☾ p.
5	32.6	25	90	81	8	10	------	
6	33	26	90	81	10	7	------	
7	33.4	25.2	89	81	10	10	------	☌ ☾² p.
8	35.1	25.2	94	78	10	10	------	☐☓² a. p. ☌² p.
9	34	25.4	89	----	10	8	----	
10	34	25.2	87	83	10	10	17.8	⊤² a. d° a. p. ☾² p.
11	33.8	24.8	90	74	10	10	------	● ⊤² a. ☐☓² p.
12	34	24.7	92	68	10	10	------	
13	33	24.7	86	72	10	10	------	
14	35	24.7	90	69	10	7	------	☾² p.
15	35	24.6	87	81	10	5	------	☾² p.
16	35	24.6	90	77	10	8	13.7	☾² p² p.
17	35	24.2	91	85	10	10	------	☌ ☾ p.
18	34.2	24.2	90	80?	10	10	------	
19	33.4	24.3	89	----	10	10	39.9	☾ ☐☓² ●² p.
20	33.2	23.2	89	81	10	7	------	☾ ☾ p.
21	33.5	23.2	90	77	10	8	------	
22	32	25	87	81?	10	10	27.4	☌° ☐☓² a.
23	34.2	25.1	90	80	10	8	------	● ☌ a. ☾ ☾ p.
24	34.6	24.6	89	82	10	10	------	
25	34	24.6	87	79	10	10	------	
26	35	24.8	92	74	10	10	12.2	☾ ● ☐☓² p.
27	33.8	24.1	87	75	10	8	------	☌ a. ☾ ☾ p.
28	33.3	24.2	88	73	10	10	7.9	☾² ☾ p p.
29	33.4	24.2	94	82	10	10	------	☌ ⊤² a. p. ☾ ☾ ☿ p.
30	33.8	23.8	92	81	10	10	------	
Mean	34	24.7	89.8	77.7	9.9	9	------	
Total	------	------	------	------	------	------	118.9	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.8	23.4	87	64	9	9	0.3	⊤ ●° p.
2	35.3	25.5	92	75	6	8	.3	●° ⊤ p.
3	34.9	25	89	62	10	9	10.7	⊤ ● ☾ p.
4	33.7	24.9	89	69	9	9	4.3	⊤ ○ ☾ p.
5	30.8	25	88	79	10	10	.8	● ☐☓ a. ⊤ ☾ p.
6	34.4	24.4	88	64	8	7	4.6	⊤ a. d ● ☐☓ p.
7	34	25	91	69	10	9	.5	⊤ a. d ☐☓ p.
8	33.4	25.6	92	70	10	8	----	●° a. ☾ a. p. ⊤ p.
9	34.2	25	84	70	6	10	5.3	d ⊤ ● p.
10	31.8	24.8	91	69	10	10	.8	○ ☾ p.
11	30.8	25.6	92	86	10	10	------	● a. ⊤ d ☾ p.
12	30.9	24.4	91	85	10	10	21.4	d² ●² ⊤ a.
13	29.7	24	95	84	9	10	8.1	● a. d p.
14	32.3	23.4	88	74	5	9	------	⊤ ☾ p.
15	33.9	24.6	91	69	4	7	----	☾ p.
16	31.8	25.2	92	75	9	5	45.2	☊² a. ☾ ●² p.
17	31.8	23.6	92	75	10	10	.3	⊕ ●° p.
18	31.3	25	92	75	4	10	7.1	●° a. p.
19	31.4	24.4	94	92	10	10	30.8	⊤ a. ● a. p. ☾ p.
20	30.8	23.9	97	79	10	10	5.8	● a. ☿² p.
21	30.8	24.5	92	81	10	10	16	⊤ d ● a. p. ☾ p.
22	31.4	23.6	96	78	10	10	----	⊤ ☾ p.
23	32.3	25	94	70	10	9	5.3	☾ a. ☾ a. p. d p.
24	33.4	24.2	94	71	10	8	.5	☾ a. ● a. p. ⊤ d p.
25	32.8	24.6	92	90	9	10	2.3	d ⊤ ●° p.
26	31.7	23.5	87	79	6	8	15.7	☾ ⊤ a. p. ● ☾ p.
27	30.8	23.6	96	71	10	9	4.3	⊕ ☿ p.
28	31.2	23.7	95	81	6	5	3.3	● d ☾ a.
29	30.8	24	87	78	10	10	4.3	☾ ⊤ ● ☾ p.
30	31.9	24	92	90	9	10	12.7	●² ⊤ ☿.
Mean	32.3	24.4	91.3	75.8	8.6	9	------	
Total	------	------	------	------	------	------	210.7	

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33	24.2	96	67	8	8	------	☾ p.
2	33.1	27.1	89	72	9	8	----	☊ a. ⊤° ☾ p.
3	33.8	26.3	96	----	8	8	6.4	☊ a. ☐☓ ● p.
4	33.7	24.6	95	----	9	8	------	☌ a. ☾ p.
5	32.8	26.5	90	----	9	9	----	d ☐☓ ☌ a.
6	32.8	25	86	69	8	8	20.6	☊ ●° a.
7	32.4	24.4	95	68	10	9	.5	☐☓° ● a.
8	32.8	24.6	93	74	10	9	.8	⊤ d² a.
9	33.6	25.1	93	64	9	3	17.8	☊ a. ☾ p.
10	31.7	24.3	88	71	10	10	.8	☐☓ ● a. ☾ p.
11	29.6	25.7	94	81	10	10	.5	d² a. ☾ p.
12	29.9	25.2	92	79	10	10	32.2	●° a. d p.
13	27	23.9	98	92	10	10	11.7	●² a.
14	32.9	24.1	97	----	10	7	------	
15	33.3	25.1	95	73	8	8	------	☊ ≡° a. d ☾ p.
16	32.7	25.6	94	80	8	8	8.1	☊² ● a. p ☾ p.
17	31.9	26.1	91	87	8	10	7.4	☊ ● a. p ☾ p.
18	33.2	26.1	91	78	10	9	8.7	☊² a. p a. p.
19	33.8	25.6	97	----	9	8	----	☊ ≡ a. ☾ p.
20	33.1	25.2	95	73	9	9	1	☊ ≡° a. p° p.
21	33.2	26.3	91	75	9	9	4.8	☊ a. ● p.
22	32.3	25.1	96	68	10	8	4.9	● a.
23	32.4	25.3	94	76	9	9	------	●° a. ☾ p.
24	32.8	24.9	94	71	8	7	5.1	☊ p a. ☿ p.
25	32.6	25.8	92	75	9	9	7.4	☊² p a.
26	31.8	24.5	95	81	8	10	18.5	☊ ≡° a. ☐☓ p.
27	29	24.1	97	77	10	10	.5	● d° a. ●° ☿ p.
28	32.2	24.9	94	68	10	8	----	☊² d° a. ☾ ☿ p.
29	33	25	92	69	10	10	2.8	☊² a. d² p.
30	32.7	24.2	94	69	10	9	.3	☊ a.
Mean	32.3	25.2	93.5	74.3	9.2	8.6	------	
Total	------	------	------	------	------	------	160.8	

GUIUAN.

[ϕ=11° 03′ N; λ=125° 43′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p.m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.2	23.3	97	73	1	4	0.3	☊ a.
2	33.1	23	98	64	3	3	19.8	●° a. ● p.
3	31.4	23.4	97	82	1	8	9.7	p° a. ● d p.
4	32.2	23.2	97	63	7	2	1.3	●° a. d p.
5	32.4	23.7	97	----	2	1	------	p a. ☾² p,
6	32.8	23.5	98	73	5	3	------	☾² p.
7	33.2	23.4	98	69	1	5	------	☾² p.
8	32.7	23.8	97	78	6	7	3.3	☊° ☐☓ p a. d p.
9	33.1	23.8	98	68	3	1	3.3	☊² a. ☾² p.
10	32.9	24.7	97	----	7	4	44.7	● a. ●² p.
11	31	24.8	97	71	10	10	------	● a. ☾² p.
12	32	25.6	89	74	4	7	------	☾² p.
13	32.3	24.4	89	72	8	2	------	⊤ ☾² p.
14	32.4	23.9	88	72	6	3	8.2	p ☌² a. ⊕ ☾° p,
15	32.3	23.7	94	74	1	2	1.3	● a. ☾² p.
16	32.2	24.5	97	75	3	1	------	p° a. ☾² p.
17	28.7	26.7	85	85	4	10	------	d p.
18	32.1	25.5	87	73	7	2	------	☾² p.
19	32.4	23.9	86	----	3	2	------	☾² p.
20	31.2	27.4	86	78	8	6	------	⊕ a. p. ☿² ☾² p.
21	32.8	26.5	86	----	8	5	------	☾² p.
22	31.7	27.3	87	71	7	9	------	☾° p.
23	32.4	24	86	69	5	3	.5	●° a. ☿ p.
24	33.3	22	97	58	7	2	.8	☊² a.
25	32.4	23	96	64	5	2	------	p° a. ☾° p.
26	33.2	23.6	85	----	2	2	------	☊° a. ☾° p.
27	33.1	27.3	81	69	4	1	------	☾² p.
28	32.8	24.4	85	71	3	1	------	☾² ☾ p.
29	30.3	24.3	85	77	9	9	7.1	⊤² ●° a. ☌² ☾² p.
30	31.8	22	97	64	2	4	------	☊² a.
Mean	32.2	24.4	91.9	71.5	4.7	4	------	
Total	------	------	------	------	------	------	100.3	

Meteorological data for third and fourth class stations—Continued.

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.4	23.7	95	63	4	4	1	♌ ≡° a. ●° ☋° p.
2	32.6	23.8	96	63	4	5	4.3	♌ ≡° d° a. ●° p.
3	31.8	24.2	97	69	7	7	14.5	●° ↙ ≡ d° a. ● p.
4	32	23.7	98	63	3	4	------	● ≡ a. ↘ p.
5	32.5	23.7	97	65	5	4	------	♌ ≡ a. ↘ p.
6	32.5	24.2	96	66	4	4	------	♌ ≡° a. ↙² p.
7	32.6	23.7	97	64	2	5	------	♌ ≡ a. ↙ p.
8	32.6	24	93	68	4	6	------	♌ a. ⊤ p.
9	32.8	23.7	95	58	4	5	7.6	♌ ≡° a. ⊤ ↙ ● p.
10	32.5	24	95	67	4	4	29.5	≡° a. ⊕ ↙ p.
11	31.5	23	95	69	10	7	5.1	● ◯ a.
12	33	23.3	96	65	3	7	------	♌ ≡° d° a.
13	33	24	94	73	6	7	22.9	♌ d° a. ● ⌐◪ p.
14	31.7	23	97	70	4	5	------	♌ ≡ a. ↘ p.
15	31.8	23	96	67	3	4	------	♌ ≡° a. ↘ p.
16	32.4	23.8	95	73	4	5	6.4	♌ ≡° a. ●° ↙ p.
17	31.5	24	98	73	3	8	------	♌ ≡ ⊤ a.
18	32.3	23.7	97	68	7	6	4.1	♌ ≡ ● a. d° ↙ p.
19	33	23.3	97	67	4	5	3.1	♌ ≡ a. ● ⊤ ↙ ↙² ☋° p.
20	33.6	24	97	69	5	6	------	♌ ≡ a. ◯ ☾ ↙ p.
21	32.5	24	95	84	4	7	.8	♌ ≡° a. ⊤ ●° ↘ ☋° p.
22	32.3	23.3	96	70	5	5	------	♌ ≡° a. ◯ ↙ ☋° p.
23	32.5	23.5	97	64	4	5	------	♌ ≡ a. ⊕ ☾ p.
24	31.5	23	97	67	3	3	------	♌ ≡ a. ◯ ⊟ ↙ p.
25	31.9	23.2	96	66	4	4	------	♌ ≡° a. ◯ ↙° p.
26	32	23.1	95	64	3	2	------	♌ ≡° a.
27	32.2	23	97	66	3	4	------	♌ ≡ a. ☋ ↙° p.
28	33.2	23	98	64	4	4	------	♌ ≡ a. ⊤ ↘ ☾ p.
29	29	23.5	96	72	4	8	10.7	♌ ≡° ● a. ☋ ↘ p.
30	31	21.7	97	68	2	3	1.3	♌ ≡ a. ☋ ↘ p.
Mean	32.2	23.5	96.2	67.5	4.2	5.1	------	
Total	------	------	------	------	------	------	111.3	

MASBATE.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.5	26.5	95	-----	7	3	0.8	
2	34.6	26	97	-----	6	3	------	
3	35.6	26.6	97	-----	9	7	------	
4	34.6	26.5	97	-----	9	6	------	
5	35.2	26.4	98	-----	7	4	.5	
6	36.2	26	98	-----	3	7	------	
7	35.2	26.5	97	-----	8	4	------	
8	35.6	26.2	-----	87	6	9	71.1	
9	33.6	24	-----	61	8	7	2.3	
10	33.2	25	95	-----	6	8	------	
11	29.2	26.6	94	85	9	10	23.6	
12	30.6	25.6	96	94	6	10	.6	
13	31.5	25.6	96	71	7	7	10	
14	31.6	25.6	94	88	10	9	32.2	
15	32.8	25.6	92	89	7	10	23.8	
16	33.2	26.2	91	65	6	6	1.3	
17	32.2	26.2	86	73	8	9	------	
18	32.4	26	86	69	9	10	------	
19	32.6	27	92	74	6	6	------	
20	33	27.2	90	65	8	9	------	
21	32.5	26.2	92	71	7	6	1.3	
22	33	25.2	90	-----	9	8	11.9	
23	32.2	23.2	92	-----	9	8	.3	
24	33.5	26.5	95	61	7	7	------	
25	33.8	25.6	89	-----	8	7	------	
26	32.8	26	-----	79	8	8	25.1	
27	32.5	23.6	92	70	6	6	------	
28	32.5	26	81	-----	8	6	------	
29	32.2	26	98	-----	8	9	8.9	
30	32.6	25.5	90	54	8	9	------	
Mean	33.2	25.8	93	73.9	7.4	7.3	------	
Total	------	------	------	------	------	------	213.7	

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.7	23.9	98	72	10	4	------	● a.
2	37.1	26.4	86	-----	7	6	------	
3	37.6	26.9	79	-----	4	2	------	
4	35.1	26.6	88	-----	4	7	15.2	● p.
5	35.7	25.1	91	66	4	4	------	d p.
6	34.5	24.6	96	72	5	6	7.1	● a. ⊤ p.
7	36.5	24.8	98	65	9	7	2.5	d ⌐◪ a. ↘ p.
8	37	25	97	61	7	6	------	
9	36.6	26.5	90	61	4	5	7.9	↙ p.
10	36.2	23.8	96	62	9	7	------	● ⌐◪ a. ↙ p.
11	36.3	24.1	89	80	10	10	------	p° a. ↙ p.
12	34.5	24.5	93	74	8	9	.5	d ⊤ ↙ p.
13	33.1	24.1	96	72	5	9	7.1	● a.
14	36.2	24.3	92	48	9	5	------	
15	34.7	24.5	83	63	2	4	------	
16	35.3	24.3	94	60	5	5	------	
17	35.7	27	81	63	4	6	------	
18	35.2	27.2	80	63	7	9	------	
19	35.7	27.3	83	61	8	2	------	
20	36.2	27	81	51	9	3	------	
21	35.5	26.6	83	61	3	2	------	
22	35	25.2	76	52	10	9	------	
23	36	25.7	86	54	9	3	------	
24	36.2	24.5	93	49	5	3	------	☋ p.
25	37	24	92	56	2	4	------	♌ p° a.
26	36.2	23.9	94	59	1	5	------	↙ ♌ a.
27	34.5	25.2	84	59	9	3	1.1	d° ⊤ ◠ a.
28	36.5	25.3	93	48	9	1	1	⊤ a. ♌° a. p.
29	36.2	24.5	85	53	9	9	1	●° a. p.
30	37.3	24.5	93	63	10	9	8.9	
Mean	35.8	25.2	89	61	6.6	5.5	------	
Total	------	------	------	------	------	------	52.3	

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.5	24	95	59	1	2	------	
2	35	24.2	96	74	1	2	------	
3	34.1	24.3	95	76	1	9	18.8	p a. ⊤ ● d p.
4	32.2	24.4	96	63	2	3	------	↘ p.
5	34.2	23.7	97	66	0	3	------	p° a. ⊤° p.
6	34.8	24.4	94	66	1	1	------	↙² p.
7	35.2	24.3	95	60	1	3	------	⊤ ●° p.
8	34.7	23.9	95	53	1	2	------	⊤ ↙° p.
9	35.5	23.7	94	60	1	3	1.3	⌐◪ ●° p.
10	34.9	24.1	96	62	2	2	23.9	
11	34.7	23.1	97	77	10	10	5.6	● d a. ◯° p.
12	31.4	24	97	95	3	10	30	● ⌐◪ p.
13	34.2	23.8	97	80	1	7	4.8	d ⊤ ●° p.
14	32.6	24	96	66	3	6	------	⊤ p.
15	33.7	24.2	95	60	3	4	------	↙ p.
16	34.2	24.9	90	62	4	4	1.3	↙ ● p.
17	30.9	23.6	93	97	8	8	23.1	d ● ⌐◪ p.
18	34.2	23.6	91	86	7	8	6.4	d a. ⊤° ● p.
19	33.3	24.6	84	79	3	8	5.6	● ↙ p.
20	34.3	24.7	92	65	9	5	------	↙ ☋° p.
21	35.4	24.9	92	71	7	5	------	⊤ ↘ p.
22	34.6	24.6	95	73	3	8	------	⊤ p.
23	34	24	95	64	7	7	------	d° a. p. ⊤ p.
24	34.4	23.8	90	52	2	3	------	⊟ p.
25	34.5	23.4	93	66	4	2	------	☋ p.
26	33.8	23.4	91	62	2	2	------	↙ p.
27	35.3	23.4	91	64	2	4	------	↙ p.
28	34.1	24.4	93	58	1	4	.8	d ↘ p.
29	35.7	24.7	90	81	2	7	1.3	d a. d° p.
30	32.6	23.2	95	63	3	4	------	
Mean	34.1	24	93.7	68.7	3.2	4.9	------	
Total	------	------	------	------	------	------	122.9	

Meteorological data for third and fourth class stations—Continued.

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.1	23.5	96	-----	7	9	-----	⊤ p.
2	32.9	25.9	98	-----	8	8	-----	
3	32.6	26.1	98	-----	6	7	-----	
4	32.4	25.6	98	-----	6	6	-----	
5	32.3	26	96	-----	6	6	-----	
6	32.6	25	98	-----	6	6	-----	
7	34	24.7	98	-----	7	6	-----	
8	35.3	24.5	97	-----	7	9	-----	⊤ a.
9	35.4	25.2	98	-----	6	8	-----	⊤ p.
10	35.3	24.6	98	-----	6	6	-----	
11	29	23.8	98	-----	10	10	14.5	● ⊤ a.
12	32.5	24.3	98	-----	6	10	8.9	● a. p. ⊤ p.
13	32.4	23.8	97	-----	8	10	6.4	● a.
14	33.2	25.1	-----	-----	9	9	-----	
15	34.4	24.3	99	-----	5	6	-----	
16	33.3	24.8	97	-----	7	7	-----	
17	36	25.5	97	-----	7	10	-----	
18	36.2	25.2	97	-----	9	7	-----	
19	36.6	25.3	98	-----	7	8	-----	
20	36.2	26.3	93	-----	7	7	-----	
21	35.7	26.3	92	-----	7	8	-----	⊤ p.
22	35.2	25.4	93	-----	8	9	-----	
23	34.9	25.4	94	-----	7	8	-----	
24	35.4	25	93	-----	8	6	-----	
25	32.6	24.6	98	-----	10	6	-----	
26	35.2	24.4	93	-----	7	6	-----	
27	35	24.9	97	-----	7	8	-----	
28	34.2	24	98	-----	9	8	-----	
29	35	24.9	94	-----	7	7	-----	⊤ a.
30	32.6	24.5	95	-----	7	5	-----	
Mean	34	25	96.4	-----	7.2	7.5	-----	
Total	-----	-----	-----	-----	-----	-----	29.8	

SUMAY, GUAM (LADRONE ISLANDS).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	24	85	62	4	5	-----	
2	32.4	24	84	62	5	6	-----	
3	32.4	24.2	88	60	8	5	-----	
4	32	25	84	59	6	6	-----	
5	32	25.6	84	65	5	5	2.5	
6	32	24.6	87	63	7	10	5.1	
7	31	24	90	65	10	10	3.8	
8	32	25.6	84	65	10	8	2.5	
9	32	24.4	84	68	10	10	-----	
10	32.4	25	83	60	6	4	-----	
11	31.4	26.4	81	65	4	6	-----	
12	32	26	80	62	8	4	5.1	
13	32	24.4	87	68	8	5	6.4	
14	32.6	24	84	63	8	5	-----	
15	32.4	25.6	80	64	6	5	-----	
16	32.6	24.4	84	63	5	6	-----	
17	32	24.4	83	71	5	10	2.5	
18	30.6	25.4	90	74	10	9	3.8	
19	32.4	25	84	60	6	10	-----	
20	32.6	24.2	83	60	5	5	-----	
21	33.8	25	81	55	3	2	-----	
22	33	25.8	79	58	4	5	-----	
23	33	25	84	60	4	5	-----	
24	33.2	25	85	61	4	8	-----	
25	33	26	84	58	5	7	-----	
26	32	25	87	65	10	5	-----	
27	31	25	84	82	5	10	5.1	
28	29	25	84	84	5	10	11.4	
29	33	24	84	65	4	4	11.4	
30	32.8	24	87	65	8	8	2.5	
Mean	32.1	24.9	84.3	64.4	6.3	6.6	-----	
Total	-----	-----	-----	-----	-----	-----	62.1	

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.4	23	83?	65	10	10	-----	⊤ p.
2	36	24.6	88	57	10	10	26.2	● p.
3	35.5	23.5	91	65	10	4	38.6	●² ⌈⊀ p.
4	34.4	24	98	67	10	10	-----	⊤ p.
5	33.7	24.6	92	70	10	9	6.4	⊤ ●° p.
6	34.7	22.5	-----	64	4	8	-----	
7	36.2	24	-----	63	7	8	-----	
8	33.1	24	93	-----	10	10	-----	⊤ p.
9	33.7	23.5	88	86	10	10	-----	
10	34.6	23	89	62	8	10	-----	⊤ p.
11	33.7	24	90	74	10	10	.5	d p.
12	33.2	25	96	63	10	10	-----	p° p.
13	31.4	24.5	96	77	10	10	.3	●° a. ⊤ p.
14	33.7	23.6	88	68	10	10	-----	⊤ p.
15	33.2	23	97	-----	10	10	-----	
16	34.3	23.4	-----	71	10	10	-----	⊤ p.
17	34.2	23.4	94	75	10	10	-----	
18	34.2	24.1	94	67	10	10	-----	
19	37.1	23.5	89?	-----	10	8	-----	⊤ d° p.
20	34.5	24.1	95	66	10	10	-----	
21	36.5	24.1	92	43	10	10	5.5	p° p.
22	33.2	20.9?	96	75	10	10	-----	⊤ p.
23	35.3	23.6	94	72	10	9	.3	●° ⊤ p.
24	34.4	23.2	91	68	10	10	-----	⊤ p.
25	35.5	23.8	82?	59	5	4	-----	
26	35.3	23.4	88	61	6	7	-----	⊤ p.
27	34	23	88	68	4	8	-----	●° ⊤ p.
28	36	24	90	62	4	6	8.4	⊤ ●° p.
29	33.5	22.6	97	73	10	9	-----	⊤ p.
30	33.5	22.5	93	63	10	9	-----	⊤ p.
Mean	34.5	23.5	91.6	66.8	8.9	9	-----	
Total	-----	-----	-----	-----	-----	-----	86.2	

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35	24.2	96	-----	10	4	-----	⌣ ⏀ ◟° ●° p° p.
2	34	23.4	94	67	5	5	-----	
3	34.4	24	95	-----	4	8	-----	⊤ p.
4	34.5	24	92	66	9	6	-----	p° a.
5	34.9	23	92	-----	4	4	-----	◟ p.
6	35.3	23.5	93	-----	7	6	-----	◟ p.
7	35.8	23	90	-----	4	5	-----	⊤ ◟ p.
8	34.6	25	92	-----	6	6	12.4	⊤ a. ◟° p.
9	34.4	24	95	61	6	6	-----	⌈⊀² ● a. ⊤ ◟ p.
10	34.5	24.4	92	61	8	5	-----	◟ p.
11	29.3	24	92	79	10	10	25	⊤° ● a. p° ◟° p.
12	33.2	24.1	94	65	7	10	-----	⊤° ◟° p° p.
13	35.2	24.5	96	56	6	10	5.8	⊤ ◟² ●° p.
14	33.5	25	95	72	10	10	-----	● a.
15	34	24.5	92	60	6	4	-----	d° a. ◟° p.
16	34.5	24.9	90	64	10	9	-----	
17	34.2	24.4	95	-----	10	10	5.1	⊤ ● ◟ p.
18	33.6	24.5	96	-----	10	10	▪.3	p° ⊤ ⌒° p.
19	35.5	24.1	94	54	9	4	-----	◟° p.
20	35.4	24.8	92	-----	10	9	-----	♎° a. ◟² p.
21	35	24.4	94	-----	10	7	-----	⏀° p° p.
22	34.2	25.2	92	67	10	9	19.3	⌣° ◟² ⊤ ● p.
23	33.2	23.5	94	69	10	8	.3	◟ ⊤° ● ⌒² a.
24	33.8	25	94	73	10	9	-----	●° a.
25	33.5	23.6	92	69	9	4	2.2	♎° p° ⌒ ● a. ⏀ p.
26	33	23.8	93	66	7	4	.5	♎° a. ⏀ p.
27	34	24.8	90	-----	9	3	-----	●° a. ⊤° a. p. ⏀ ◟° p.
28	34.2	25	92	-----	9	4	2	⌣ ◟° ⊤ ●° p.
29	34	23.1	95	-----	2	9	.4	p° a. ⌒ ⏀ d p.
30	32.7	23.5	95	69	6	7	-----	⌣ ◟° p.
Mean	34.1	24.2	93.3	65.8	7.8	6.8	-----	
Total	-----	-----	-----	-----	-----	-----	73.3	

Meteorological data for third and fourth class stations—Continued.

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.6	21.5	97	63	10	9	------	
2	35.4	22.2	95	60	6	8	------	
3	35.3	22.8	97	64	3	8	------	
4	35	23	98	65	5	8	50.4	●² p.
5	35.4	22.7	97	54	4	8	.1	p○ p.
6	35.5	22.9	95	61	8	8	.5	d ⊤○ p.
7	35.6	22.5	97	64	4	8	------	
8	35.1	23.8	93	65	9	9	------	
9	35.9	23.5	95	52	7	9	------	⊤○ p.
10	36.5	22.2	97	50	5	8	4.6	●○ p.
11	29.9	23.6	95	72	10	10	------	
12	34.2	22.4	95	71	9	9	4.4	●○ p.
13	32.8	23	97	68	8	9	------	
14	34.4	23.3	95	65	10	9	------	
15	34.6	22.9	97	53	7	7	------	
16	34.5	23.3	95	59	8	8	------	
17	34.6	23.5	93	56	9	8	------	
18	34.6	24.5	94	56	8	8	------	
19	34.5	25	92	56	9	8	8.6	
20	33.8	23.7	95	56	10	8	------	● a.
21	34	24.4	94	54	9	8	------	
22	34.2	24.1	95	56	10	9	------	
23	35.5	24.1	95	52	9	8	------	
24	35	23.2	97	50	9	8	------	
25	37.1	22.8	97	47	8	8	------	
26	36.7	23	93	48	9	8	------	
27	36.4	23	93	54	4	7	------	
28	34.6	23.3	95	57	5	8	------	
29	35.6	23.8	93	92	8	10	17.8	● p.
30	35	22.4	98	64	5	8	12.7	● ⌐⊻○ p.
Mean	34.9	23.2	95.3	59.5	7.6	8.3	------	
Total	------	------	------	------	------	------	99.1	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	37.8	23.8	83	48	4	7	------	
2	36.5	24.6	94	49	4	5	------	
3	37.2	25.3	85	49	6	6	------	⊤ a.
4	35.3	24.8	87	52	3	7	------	
5	34.4	24.7	86	72	5	7	------	⊤ p.
6	37.8	23.8	93	45	3	4	0.5	d p.
7	35.8	24.3	93	58	5	5	34	
8	34.8	24.3	95	73	4	7	------	●² a.
9	34.5	24.3	95	64	4	6	5.8	●○ p.
10	34.7	23.5	95	60	7	6	------	
11	33.4	24.5	96	64	4	7	.8	p a.
12	36.2	24.5	91	44	6	7	------	⊤ p.
13	31.3	25.4	92	74	7	9	------	
14	35	23.4	92	47	7	6	5.1	d p.
15	33.4	23.2	95	61	7	4	------	
16	35.7	24.3	93	57	4	6	.3	d p.
17	35	24.2	95	57	5	6	------	
18	36.7	25	87	52	4	5	------	○ p.
19	35.4	25.1	91	60	5	4	------	
20	36.2	21?	81	56	6	6	------	○ p.
21	35.7	25	89	53	4	5	------	
22	34.2	23.5	91	62	4	5	------	⊤ p.
23	36	24.5	92	58	4	7	------	⊤ p.
24	35.2	24.1	92	55	5	5	------	
25	35.3	24.6	92	54	4	1	------	
26	35.5	24.5	91	52	1	4	------	
27	------	24.2	90	59	3	6	.5	d p.
28	35	24.8	92	55	4	3	------	
29	34.4	23.4	95	61	5	6	1	d p.
30	34.5	23.4	93	56	4	6	------	
Mean	35.3	24.2	91.2	56.8	4.6	5.6	------	
Total	------	------	------	------	------	------	48	

SILANG

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.4	19.3	97	58	2	9	48.5	d ⌐⊻○ ●² p.
2	31	19.1	97	60	10	8	------	☊ a.
3	32.6	20.5	96	59	2	9	------	⊤○ p.
4	34.1	20.8	97	57	7	8	------	d a.
5	34	20	97	58	8	5	4.6	⌐⊻○ ◠ ●○ p.
6	33.5	21	96	58	7	9	------	⊤○ p.
7	33	21.3	97	59	2	6	------	≡ ⊤○ a.
8	33.6	21.1	96	62	5	8	3.6	●○ a.
9	31.8	20.7	97	62	4	9	7.6	≡ a. ● p.
10	31.3	21.4	97	59	7	5	------	≡ a.
11	33.4	21.3	96	59	3	6	------	☊ ≡○ a. ⊤○ p.
12	33.6	21.5	98	59	10	8	2.3	●○ p.
13	32.1	21	97	59	7	8	------	≡ a.
14	33.8	21.2	97	61	5	9	44.7	≡ a. ●² ⊤○ p.
15	30.5	21	98	57	2	8	------	≡ a. ⊤ p.
16	32.8	20.5	96	58	5	7	------	☊ ≡○ a.
17	33.1	20	97	58	2	8	------	≡ a.
18	33.5	19.7	97	58	2	6	------	≡ a.
19	32.6	19.2	96	59	4	8	------	≡ a. ⊤ p.
20	32.2	19	97	59	7	8	------	≡ a. d p.
21	32.8	19.3	96	60	2	8	------	☊ ≡○ a.
22	33.2	20	97	60	7	5	------	
23	33.3	20.3	97	60	3	8	------	≡ a. ⊤○ p○ p.
24	33.5	20.5	97	58	10	5	7.9	⌐⊻○ ●○ p.
25	33	20	97	60	6	8	------	☊ ≡ a.
26	33.4	20.1	96	61	2	9	2.5	≡○ a. ●○ p.
27	30.5	20.5	98	59	7	8	------	d a. ⊤ p.
28	30.8	20.3	97	64	2	9	34.6	☊ ≡ a. ●² p.
29	29.5	20.6	97	65	7	9	58.2	●² p.
30	29.8	20	96	59	7	5	------	
Mean	32.4	20.4	96.8	59.5	5.1	7.5	------	
Total	------	------	------	------	------	------	214.5	

STA. CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.2	22.7	94	96	7	10	41.4	☊ a. ● ⌐⊻ p.
2	34.5	23.2	98	50	7	3	------	☊² a.
3	34.7	25.1	84	57	7	4	------	☊○ a. ⊻ p.
4	35.3	23.6	94	60	6	6	.5	☊ a. ⊻ p.
5	35	24.2	97	79	7	8	3.3	d○ a.
6	35.7	22	94	65	2	8	2	d² a. d ⊻ p.
7	35.3	23.6	96	60	4	6	1	d ⌐⊻ p.
8	33.5	23.5	96	69	6	7	------	⊤ p.
9	33.9	23.3	97	90	4	8	2.3	☊² a. ●○ ⌐⊻ d○ p.
10	34.8	23	94	61	3	6	3	●○ ⊻ p.
11	32.8	23.5	96	92	7	10	2.8	☊ a. d p.
12	35.5	23.6	92	63	6	8	3	
13	31	24	96	86	9	9	.5	d a. d○ ⊻ p.
14	35.1	23.1	97	57	9	6	14.5	d² ⊤ p.
15	33	22.6	98	67	9	7	------	● a.
16	33.9	23.2	92	68	8	7	------	☊ a.
17	33.8	23	97	69	7	7	------	☊ a. ⊻ p.
18	34.1	23.5	98	62	7	5	1.8	☊² a. d² p.
19	34	23.5	97	70	7	8	------	☊ a. d ⊤ p p.
20	34.5	23.3	95	60	7	7	------	☊○ a. ⊻ p.
21	33.8	22.7	97	63	6	6	------	☊ ≡○ a.
22	34.9	22.9	95	54	6	5	------	☊ a. ⊤ p.
23	34.4	23.3	97	86	4	9	------	☊ a. d○ ⊤ ⊻○ p.
24	34.5	22.9	97	61	4	5	------	☊ a. ◠○ ⌐⊻ p.
25	35.4	22.3	97	59	3	4	------	☊ a. d○ p.
26	35.3	23.6	97	55	2	6	------	☊ a. ⊻ p.
27	34.5	22.8	96	61	3	4	------	☊ a.
28	36.4	22.7	97	43	5	4	24.6	☊ a. ● ⌐⊻ p.
29	35	22.6	97	86	6	8	5.8	☊ a. ● ⌐⊻ p.
30	34.5	22.5	96	83	7	6	2	d○ ⊤ p.
Mean	34.5	23.2	95.6	67.7	5.8	6.6	------	
Total	------	------	------	------	------	------	108.5	

Meteorological data for third and fourth class stations—Continued.

ANTIPOLO.

[ϕ=14° 36′ N; λ=121° 10′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6. a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.6	23.8	85	74	9	9	------	☾ p.
2	35.7	22.8	97	52	8	6	------	☊° a. p° ☽ p.
3	36.2	23.2	85	50	4	6	------	☊ a. ☽ p.
4	35.8	22.8	89	49	9	7	------	☊° a. ☾ p.
5	35.5	23.8	93	57	5	8	------	☊ a. ☾ p° d p.
6	36.5	23	95	46	1	4	0.8	☊² a. ☾² p p.
7	36.4	23.1	91	42	7	3	58.4	☊² a. ☾² ●² p.
8	33.2	21.9	91	63	8	4	.8	●° ◠ ┬ p.
9	33.1	23.7	94	77	9	8	------	☊² a.
10	35.6	23.4	91	50	6	4	------	☊² a. ☾ p.
11	34.5	24.4	93	57	6	9	------	☊ a. ┬² p.
12	35.4	22.9	89	56	8	7	4.6	☊ a.
13	31.8	23.5	97	68	10	10	.5	●° a. p° p.
14	34.3	23.7	93	65	9	8	4.6	☊ a. p p.
15	33.5	22.9	91	67	9	9	------	●° a.
16	33.4	23.4	97	57	9	7	------	☊² a. p° ◠° p.
17	33.3	23.2	97	59	10	8	------	☊² a.
18	33.9	24	92	58	7	5	6.1	☊ a. ● ☋ p.
19	33.2	24	94	70	9	7	25.4	p° a. ☾² p ● ☋° p.
20	32.4	23.4	94	82	10	7	------	◠° a.
21	32.3	23.8	97	64	9	8	------	☊² a. ☋° p.
22	34.1	22.8	90	52	10	7	------	☊ a.
23	34.5	23.6	92	58	7	8	------	☊ ◠° a. ☾ ☋ p.
24	33.5	23.3	91	63	7	7	------	⊕° ☾ p.
25	34.8	23.5	97	53	3	4	------	☊² a.
26	35	24	96	58	2	7	------	☊² a. ┬ p.
27	35.4	24	95	60	4	7	.5	☊ a. ┬² p.
28	34.7	24.4	96	65	6	7	------	●° p a. ☿ p° p
29	35.5	23.8	96	59	9	8	30.5	☾² ●² p.
30	33.1	23	94	66	10	7	------	☿ p.
Mean	34.3	23.4	93.1	59.9	7.3	6.9	------	
Total	------	------	------	------	------	------	132.2	

IBA.

[ϕ=15° 20′ N; λ=119° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	23.3	93	70	10	10	------	☾ a. p.
2	34.7	23.3	91	55	10	10	------	┬ ☽ d p.
3	35	23.4	88	64	4	4	------	☾ d p.
4	34.1	23.6	92	61	10	6	0.8	☾ ●° p.
5	34.2	24.5	87	76	9	10	1.8	┬° a. ☾² ●° p.
6	33.9	24.3	90	64	6	10	------	☾° ◯ a. ┬ ☋ d p.
7	33.9	23.7	92	66	10	8	7.5	◯° ☾² ● p.
8	32.9	24	94	82	10	10	4.4	┬ a. ☾ d ●° p.
9	30.6	23.7	95	84	10	10	3.3	┬ d a. ●° a. p. ☽ p.
10	33	22.8	94	69	10	10	------	◯ a. p. ☾ p.
11	33.3	23.5	93	65	9	7	5.1	☾² ● p.
12	32	23.9	92	72	7	10	42	☾² ●² p.
13	31	23.5	95	74	10	10	44.4	● ◯ a. ●² ☾² p.
14	31.2	22.8	96	72	10	10	36.1	● a. p.
15	32	23	91	69	10	10	2.7	◯ a. ☾ ●° p.
16	33	23.8	90	75	10	10	3.4	d° a. ┬ a. p. ●° ☽ p.
17	32	23.4	94	74	10	10	3.5	◯ a. ●° a. p. ☾² p.
18	31.8	24.2	95	91	10	10	29.1	☾² ● a. ☾ ●° p.
19	31.1	23.5	94	90	10	10	47.1	d a. ┬ ● a. p. ●² p.
20	31.3	23.9	97	76	10	10	22.7	☾² ● a. p ☾ ● p.
21	31.6	23	96	83	10	10	22	● a. p. ☾ p.
22	31.8	22.9	87	74	10	10	14.6	┬ a. ☾ ● p.
23	31	23.5	91	69	10	10	------	┬² d° a. ☾ d ☿ p.
24	32	22.9	95	84	10	10	4.9	◯ a. ● ☿² ☽° p.
25	32	23.5	88	69	9	8	------	
26	31.8	23.4	91	70	5	6	------	☊ a. ┬ ☽ p.
27	32.1	24	88	69	10	4	------	⊕° ◯° a. ┬ ☽ p.
28	31.6	24	92	74	9	8	19.4	┬ a. ● a. p. ☽° p.
29	31.6	23.5	92	78	10	10	5.7	┬ a. p. ● ☽ p.
30	32	23.9	92	75	10	10	.2	☾² d p.
Mean	32.4	23.6	92.2	73.1	9.3	9	------	
Total	------	------	------	------	------	------	320.7	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	36.2	24	94	61	7	10	48.3	☊ a. ●² ☾ p.
2	34.7	23.4	93	48	8	10	22.1	● ┬ p.
3	36.7	23	93	41	8	10	34.3	☊ a. ● p.
4	35.8	22.4	96	42	4	10	15.7	☊ ☰° a. ● p.
5	35.6	22	94	41	3	8	8.9	☊ a. ● p.
6	36	22.8	96	44	3	8	6.4	☊ ☰° a. ● ☾ p.
7	36.2	23.6	93	41	2	7	2.5	☊ a. ●° d p.
8	35	23.8	96	86	2	10	22.9	☊ a. ● ☾ p.
9	33.6	23	96	62	2	8	3	☊ ☰° a. ☾ d p.
10	35.2	22.7	96	44	3	8	------	☊ a.
11	35.8	21	93	40	7	8	------	☊ a. ☽ p.
12	35.9	23.6	94	43	7	9	48.5	☊ a. ● p.
13	32.7	23.8	94	57	10	9	4.6	☊ a. ● p.
14	34.3	23.6	93	55	3	9	5.1	☊ a. ● p.
15	34.4	23.5	93	47	2	8	------	☊ a.
16	35.7	24	93	50	3	7	------	☊ a.
17	35	23.9	96	49	2	8	10.2	☊ ☰° a. ● p.
18	34.5	23.3	95	63	9	10	12	● a. p. d ┬ ☾ p.
19	33.5	23.6	97	49	3	9	3	☊ a. ●° p.
20	33.7	23.6	97	53	8	9	.5	☊ ☰ a. p° ┬ p.
21	34	23.4	93	63	9	9	------	☊ d° a.
22	34.9	23	95	56	4	9	66	☊ a. ●² d p.
23	34.2	22.8	97	44	3	10	16.5	☊ ☰ a. ● ☾ p.
24	34.7	22.6	96	53	3	9	------	☊ ☰° a.
25	35.6	23.3	95	60	2	7	------	☊ ☰° a. ☾ p.
26	36.6	23.4	93	57	3	4	16.8	☊ a. ● ┬ ☽ p.
27	35.6	23.3	97	57	2	7	------	☊ ☰ a.
28	35.2	23.6	95	54	7	7	------	☊ ☰° a. p° ┬ p.
29	35.1	24	96	71	9	10	------	☊ ☰° a. d° ┬ p,
30	36.2	23.8	97	52	3	3	16.8	☊ ☰ a. ● p.
Mean	35.1	23.3	94.9	52.8	4.7	8.3	------	
Total	------	------	------	------	------	------	364.1	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.4	23.5	93	71	10	9	------	☊ a.
2	33.1	22.5	96	68	10	3	1	☊ ☰° a. ☽ p.
3	34.2	23.4	95	68	4	9	------	●° ☰° a. ☽² p.
4	34.2	24.2	93	66	10	3	------	☊ a. ┬ ☽ p.
5	34.6	23.8	93	66	10	9	41.9	☊ ┬² a. ┬ ☽² ●² p.
6	32.7	21.7	95	71	2	7	------	☊ ☰° a. ☽² p.
7	34.8	23.7	94	66	10	7	50.8	☊ a. ●² ☾ ☽² p.
8	34.3	23.9	96	67	10	9	7.9	☊ ☰° a. ● ☾ ☽² p.
9	35.1	22.8	94	57	10	10	------	☊ a. ☽ p.
10	35.6	23.9	92	63	10	9	4.1	┬ ☽ ● p.
11	33.7	24.4	97	67	9	8	1	☊ ☰ a. ┬ ☽ p.
12	33.2	24.3	96	72	10	9	------	● ☰° ◠ a. d ☽ p.
13	34.9	24.4	94	60	10	10	2	☊ a. d ●° ☾ p.
14	34.7	24.2	94	67	10	10	------	☊ a. ┬ ☽ p.
15	36	24.2	80	60	10	9	------	d ☽ p.
16	36.3	23.7	91	56	10	9	------	
17	35.1	26	81	56	10	10	------	
18	36	26.5	82	56	10	8	------	☽ p.
19	36.3	26.7	80	54	10	10	------	☽ p.
20	35.8	26.5	78	52	10	9	------	☽ p.
21	34.9	26	78	55	10	10	------	┬ p.
22	35.5	24.9	80	56	10	8	------	☽ ┬ d a.
23	36.1	23.6	91	52	10	8	------	d p.
24	36.2	23.2	93	56	10	10	------	☽ ☿ p.
25	36.6	24.1	92	56	10	7	------	☽ p.
26	36.7	24.1	92	60	3	4	34.5	●² ☾ p.
27	34.9	23.5	97	67	10	3	------	☊ a. d ☽ p.
28	34.9	24.5	93	69	10	7	.3	☊ a. ● ☾ p.
29	35	24.4	93	62	10	10	------	☊ a. ┬ ☽² p.
30	34	23.5	92	65	10	10	.3	┬ d p.
Mean	34.9	24.2	90.5	62	9.3	8.1	------	
Total	------	------	------	------	------	------	143.8	

Meteorological data for third and fourth class stations—Continued.

SAN FERNANDO, UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.6	25	81	57	10	9	------	☿° a. p. ☈☌° p.
2	35.9	24	76	52	9	4	------	☿° a. p. d° ☾° p.
3	37.1	25	74	49	6	7	------	☿° a. p. ☉² ☾° ☋² p.
4	36.9	24.9	80	49	10	8	------	☽° a. ☿° ☾° ☋° p.
5	------	------	------	------	------	------	------	
6	------	------	------	------	------	------	0.5	d² p.
7	36	23.7	88	50	10	6	------	☉° a. ☿° p.
8	35.6	24.2	87	54	10	9	------	☉² a. p. ☈☌° p.
9	35.1	24.7	86	55	7	8	1.8	d² ☈☌² p.
10	35.4	24	82	55	9	7	2.3	☈☌° d² p.
11	35.1	24.5	90	54	4	4	.5	☈☌° a. p. ☿° ☾° d² p.
12	36.4	24.7	86	57	7	5	18.8	☈☌° ● p.
13	34.4	24.2	95	60	10	9	.5	d² a. ☽° a. p. ☿° ☾° d°
14	32.8	24.1	82	61	10	8	22.7	d² a. p. ● p.
15	34.9	23.4	84	56	10	7	------	☈☌° p.
16	34	25.1	83	62	4	9	------	☿° a. ☾° p.
17	35.5	25.3	77	54	9	4	------	☿° a. ☽ ☾° p.
18	34.9	26.4	80	59	10	10	------	☽² a. ☽° d° ☾° p.
19	34.7	25.6	78	69	10	10	31.2	☿° ●² p.
20	34.9	22.7	74	58	9	8	21.6	☿° a. p. ☈☌° ● p.
21	34	24.4	83	75	10	10	.8	d² a. ☽° a. p.
22	34.7	24.7	82	60	9	9	6.4	☈☌° d² p.
23	35.4	24.2	83	54	10	9	8.4	☉° a. ☈☌° d² p.
24	33.8	24	88	61	10	9	------	☉° a. ☿° ☾° p.
25	34.4	24.5	86	58	8	6	------	☿° a. p. ☋° p.
26	34.5	24.6	85	60	6	6	------	☈☌° ☋° p.
27	34.2	25.4	81	59	8	6	1.5	☈☌² d² p.
28	33.6	25	85	66	3	3	------	☈☌° p.
29	34.2	25.5	84	58	10	9	45.5	☿° a. p. ☈☌² ●² p.
30	32.8	23.1	92	66	8	8	7.4	☽° ☿° a. p. ☈☌° ●° p.
Mean	34.9	24.5	83.3	58.1	8.4	7.4	------	
Total	------	------	------	------	------	------	169.9[1]	

ECHAGUE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.1	22.8	95	55	9	4	16.8	☾° ☿° ● d° p.
2	35.8	22.4	96	56	5	8	------	♎ a. ☾° p.
3	35.9	22.8	91	50	5	7	7.1	♎ a. ☾° d° ● p.
4	36.4	23.5	92	51	8	7	------	☽° ☉ ☈☌° p.
5	35.4	23.5	92	57	6	8	3.6	♎ a. ☿ ● ☾° p.
6	35.7	22.8	91	54	5	3	3.6	♎ a. ☈☌° ● p.
7	35.7	22.9	94	54	9	6	30	♎ a. ☈☌° ●² p.
8	35.1	22.8	95	62	9	7	17.5	☾° ☿ ● p.
9	35.1	22.1	97	57	6	6	------	♎ ☰° a. ☿ ☾° p.
10	35.2	23.4	92	52	8	7	------	♎ a. ☾° p.
11	35.6	24.8	91	60	9	8	------	☿ ☾° p.
12	35.2	24.4	88	52	5	6	------	☾ p.
13	36	23.3	91	52	10	8	2.5	☈☌ d° ● p.
14	36.5	24.7	94	53	9	6	36.1	●² d° ☾ ☿ p.
15	36	24.2	97	54	10	7	.3	
16	36.7	23.9	95	53	4	5	.5	☾ ☿ d° p.
17	36.8	23.6	92	51	6	6	------	☾ ☿ p.
18	36	23.9	92	53	10	9	------	♎° a. ☽° ☉° ☿ ☾° p.
19	36.9	24	91	51	8	9	23.9	♎° a. ●² p.
20	37.1	23.4	92	48	9	6	------	☽° ☉ a. ☿ ☾ p.
21	36.6	23.5	93	46	8	9	23.1	●² ☾ ☿ p.
22	35.2	22.6	96	56	9	8	50.8	☾ ☿ ●² p.
23	34.6	23.3	96	59	8	6	12.2	☾ ☾ ☋° ☿° ☿ ● p.
24	35.9	22.1	96	59	9	9	18.8	☾ ☿ d ● p.
25	36.6	22.7	95	56	7	6	11.7	☰° ♎° a. ☾ ☿ d° ● p.
26	35.1	22.8	93	56	8	4	------	☾ ☿ p.
27	36.6	22.6	93	50	3	5	7.4	♎° a. ☾° ☿° ● p.
28	35.4	22.9	93	59	3	4	37.1	☿° ☾° d ●² p.
29	34.4	23.4	93	59	9	8	8.6	☿ ●² ☾ p.
30	34.7	23	94	64	6	4	------	☿ d° ☾° p.
Mean	35.8	23.3	93.3	54.6	7.3	6.5	------	
Total	------	------	------	------	------	------	311.6	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.6	24	81	63	9	9	1.8	☿° p p.
2	32.9	23.5	84	55	6	5	------	♎ a. ☿° ☾ p.
3	32.6	23.5	86	65	3	9	------	♎ a. ☿° p.
4	32.9	23.5	80	63	9	4	------	♎ a.
5	32.8	23.5	78	63	5	9	------	♎ a. ☿° d p.
6	32.8	24.5	80	66	8	4	2	☈☌° p p.
7	33.3	23.5	83	60	8	4	------	☈☌° d p.
8	33.2	23.5	80	66	10	8	11.9	● a. ☿° p.
9	32.8	23.5	81	69	8	8	30.2	d ●² ☈☌° p.
10	32.2	23.2	88	69	8	4	18	● ☈☌° p.
11	32.5	26.5	90	63	4	7	------	♎ a. ☿° ☾ p.
12	32.8	25.8	84	66	4	3	47.8	♎ a. ☈☌° ●² p.
13	31.3	26	92	76	5	9	3	♎ a. ☿° p p.
14	31.8	25.8	87	69	10	7	2.3	p p.
15	32.8	25.5	87	63	8	7	------	♎ a. d p.
16	31.3	25.5	83	72	3	9	------	♎ a. ☿° p.
17	32.8	25.2	88	64	4	5	------	♎ a. ☾ p.
18	32.9	27	78	74	10	10	------	☿° a. ☾ p.
19	31.8	27	83	72	9	8	10.9	☿° a. p. ● p.
20	32.8	25.5	83	68	4	5	4.3	♎ a. ☿° p p.
21	31.5	25.5	82	70	8	10	------	d p.
22	32.3	25.5	85	65	10	8	2	☿° p ☾ p.
23	32.5	25.2	88	68	9	8	------	♎ a. ☿° ☾ d p.
24	31.9	25.2	88	68	10	9	------	☿° d ☁° p.
25	31.4	25.1	88	73	6	5	------	♎ a. ☿° d ☁° p.
26	32	25.1	88	71	3	3	5.1	♎ a. p. ☈☌° p.
27	31.7	25	88	73	7	4	20.3	● ☈☌² p.
28	31	26.5	92	76	9	9	4.6	☈☌° ●° p.
29	31.3	26.4	91	72	9	9	136.1	☈☌² ●² p.
30	30.9	25.2	88	77	9	6	1.3	●° ☈☌° p.
Mean	32.3	25	85.1	68	7.2	6.8	------	
Total	------	------	------	------	------	------	301.6	

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.3	25.5	80	55	2	4	------	
2	35.4	24.4	87	57	1	4	------	
3	35.5	25	85	53	1	3	------	
4	35.3	24.7	85	54	1	3	------	☾ p.
5	36	25.1	82	52	1	4	25.9	☈☌² ● p.
6	34.4	25.5	88	55	4	3	13.5	☈☌² ● p.
7	34.3	24.3	89	52	10	3	2	☈☌ ●° p.
8	34.1	25.4	89	49	10	7	------	
9	34.3	26	86	59	3	10	2.8	☿² ●° p.
10	34.4	24.4	88	49	4	4	------	
11	34.5	25.4	92	54	2	4	------	☿ p.
12	34.8	25.3	86	51	2	5	------	☿ ☾ p.
13	34.4	25.9	83	53	9	7	2.5	☿ ●° p.
14	32.6	25.1	86	59	10	10	41.9	●² p.
15	33.1	23.9	89	61	9	10	2.3	●° p.
16	31	24.8	88	72	6	10	2.5	●° a. p.
17	33.4	24.5	84	58	5	7	------	
18	34	25.5	85	55	10	9	------	d° a.
19	32.8	25.4	84	73	3	10	2.5	d° a. ●° p.
20	33.8	25.4	82	59	3	8	1.3	●° p.
21	33.7	25	87	56	10	10	18	● ☿ p.
22	33.5	23.5	92	52	10	6	------	
23	33.7	24.7	86	56	4	5	------	
24	33.3	24.8	89	56	6	7	------	
25	33.6	25	84	57	3	4	------	
26	33.8	24.6	95	53	3	6	------	☰° a.
27	33.9	25	80	54	4	3	------	☁ p.
28	34.1	25.6	86	60	4	4	1.8	
29	33.6	24.9	89	67	10	9	.5	●° a. p.
30	34.4	25	92	67	4	6	2.3	☾ ●° p.
Mean	34	25	86.6	56.9	5.1	6.2	------	
Total	------	------	------	------	------	------	119.8	

[1] 28 days of observation.

Meteorological data for third and fourth class stations—Continued.

SANTO DOMINGO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.9	23	93	-----	2	10	16.6	d v ●° a. ⊤ ● ↙° p.
2	31.6	22.8	93	-----	3	7	5.8	● d a Ω a. p.
3	32.5	22.7	94	-----	7	5	------	
4	32.5	23.4	92	-----	7	8	------	⊤ p.
5	31.5	24.5	94	-----	5	3	------	↙ p.
6	31.6	24.7	94	-----	6	4	------	↙ p.
7	31.6	24.4	91	-----	4	3	12.7	↙² ● p.
8	31	23.6	90	-----	10	7	1.8	d ↙° ● a. ↙² p.
9	29.5	23.7	90	-----	9	7	3.8	d° a. ↙° ●° a. p.
10	32.5	24	91	-----	8	6	1.3	◹° ●° p.
11	32.1	23	92	-----	5	7	.2	◹ a. Ω² ↙² p.
12	32.9	23.5	92	-----	8	4	12.5	●° a. Ω ● p.
13	33.4	23.4	90	-----	7	6	------	Ω² ↙² p.
14	31.5	24.5	89	-----	9	8	.8	↙° ●° ⌒° ↙° p.
15	28.8	23.4	88	-----	9	10	15.8	↙° ●° a. d p.
16	28	25.8	90	-----	10	10	16.2	d a. ● a. p. ↙° p.
17	30.6	23.4	89	-----	7	9	27.7	⊤ a. ↙° ● a. p.
18	30.6	23	91	-----	8	7	------	↙° ↙° p.
19	30.8	24.6	92	-----	9	8	------	↙° a.
20	31	26.5	91	-----	7	8	------	↙° a. p.
21	29.5	------	88	-----	9	10	73.9	◹² a. ↙° ●² a. p. ⊤
22	31.5	------	88	-----	10	6	------	Ω° ↙° p.
23	31.5	25.9	94	-----	8	7	------	○² ⌒² ↙° p.
24	31.5	26	93	-----	7	6	------	Ω° a. ⌒° ↙° p.
25	31.8	26.3	91	-----	5	7	------	
26	31.4	26.4	91	-----	6	7	------	○° p.
27	31.4	26.4	91	-----	6	6	------	
28	31	26.2	91	-----	6	6	------	↙² p.
29	31.3	25.4	95	-----	8	5	5.9	● ⊤° a. ↙² Ω° p.
30	32.8	24.4	91	-----	9	6	------	⌒° Ω² p.
Mean	31.3	24.5	91.3	-----	7.1	6.8	------	
Total	------	------	-----	-----	-----	-----	195	

SEISMOLOGICAL BULLETIN FOR JUNE, 1912.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

4, $5^h\ 21^m\ 49^s$* [4, $13^h\ 21^m\ 49^s$]. **Northern Luzon.** Earthquake of intensity IV, felt throughout the northernmost part of Luzon, to wit, Ilocos Norte, Cagayan, and the northern part of the Mountain Province. The seismographs of Taihoku, Formosa, recorded it at $5^h\ 21^m\ 40^s$; its epicenter appears to have been underneath the Pacific Ocean, near parallel 20° N and meridian 124° E.

10, $20^h\ 32^m$ [11, $4^h\ 32^m$]. **Aparri** (N of Luzon). Oscillatory earthquake. Direction N–S, intensity III, duration 5 seconds.

12, $0^h\ 34^m\ 12^s$* [12, $8^h\ 34^m\ 12^s$]. **Baguio** (W of Luzon). Oscillatory and trepidatory earthquake. Direction E–W, intensity II–III, duration 2 seconds. A repetition of less intensity occurred at $7^h\ 17^m$ [$15^h\ 17^m$].

12, $11^h\ 52^m$ [12, $19^h\ 52^m$]. **Legaspi** (SE of Luzon). Oscillatory and trepidatory earthquake. Direction NNW–SSE, intensity III, duration 6 seconds. Its epicenter lay probably within the system of Mayon Volcano.

13, $20^h\ 19^m\ 54^s$* [14, $4^h\ 19^m\ 54^s$]. **Ambos Camarines** (SE of Luzon). Earthquake of force III. At Nueva Caceres the observed direction of the oscillations was NNW–SSE, while at Atimonan, in the eastern part of Tayabas, they had the direction E–W and were of less intensity, though well perceptible. The epicenter was probably in the sea, not far from the northern coast of Ambos Camarines.

14, $17^h\ 45^m$ [15, $1^h\ 45^m$]. **Panay Island.** Earthquake of force III–IV, which seems to have been perceptible throughout the central and eastern parts of the Island. At Capiz, on the northern coast of the island, as well as at Iloilo, on the southeastern coast, the phenomenon was of sufficient intensity and duration to awake a number of persons. The circumstance that the disturbance occurred near midnight is probably the reason why the time assigned to it in the notices from Capiz and Iloilo is in such bad agreement as if it referred to two distinct earthquakes. Nevertheless we believe that there was only one disturbance of small intensity and great extension.

15, $2^h\ 16^m\ 29^s$* [15, $10^h\ 16^m\ 29^s$]. **Santo Domingo** (Batanes Islands). Oscillatory and trepidatory earthquake. Direction SE–NW, intensity III–IV, duration 5 seconds; it was preceded by subterranean noises (degree I).

15, $18^h\ 30^m$ [16, $2^h\ 30^m$]. **Sarangani** (S of Mindanao). Earthquake of intensity III.

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in Greenwich mean time (Midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

18, $1^h\ 32^m\ 43^s$* [18, $9^h\ 32^m\ 43^s$]. **Northern Luzon.** Earthquake of force IV, felt throughout the part of Luzon occupied by Ilocos Norte, Cagayan, and the northern portion of the Mountain Province. Its origin lay probably to the south of the Babuyanes Islands.

18, $9^h\ 30^m$ [18, $17^h\ 30^m$]. **Cotabato** (SW of Mindanao). Oscillatory earthquake. Direction SE–NW, intensity III, duration 4 seconds.

23, $8^h\ 10^m$ [23, $16^h\ 10^m$]. **Sarangani** (S of Mindanao). Earthquake of intensity II–III.

24, $23^h\ 19^m$ [25, $7^h\ 19^m$]. **Butuan** (N of Mindanao). Earthquake of force III, with a repetition of less intensity at $13^h\ 51^m$ [$21^h\ 51^m$].

26, $14^h\ 27^m\ 29^s$* [26, $22^h\ 27^m\ 29^s$]. **Baguio** (W. of Luzon). Oscillatory earthquake. Direction E–W, intensity II–III, duration 3 seconds. The origin must probably be sought toward east, in Nueva Vizcaya Province.

27, $1^h\ 5^m\ 54^s$* [27, $9^h\ 5^m\ 54^s$]. **Northwestern Luzon.** Earthquake of intensity VI–VII, which was felt chiefly in the Ilocos Provinces. Its meizoseismic area comprised central and southern Ilocos Norte, northern Ilocos Sur, and the subprovince of Abra. At Laoag, the capital of Ilocos Norte, and the towns to the east and south thereof, the earthquake developed force VI–VII, and everywhere the violent movements of the ground were preceded by noises resembling muffled detonations, which seemed to come from the direction of the mountain range lying to the east. At Vigan and the neighboring places the earthquake was of somewhat less violence but greater duration than at Laoag (20 seconds), and the same sounds were heard, coming likewise from the east. Nothing is known regarding the subprovince of Abra and the Mountain Province which latter contains the Central Cordillera in question. It is, however, safe to assume that the disturbance was of equal, if not greater intensity within the cordillera than on the coastal plains of the Ilocos: this is indicated by the fact that the seismic waves preserved force IV even at Aparri and other places in Cagayan Province, situated to the east of the cordillera, at a distance of approximately 80 kilometers, and force V at Cervantes which lies on the mountain range, but some 70 kilometers south of the parallel of Vigan. Moreover, in the coast towns of the southern part of Ilocos Sur and in Union Province, the disturbance was felt with less violence than at Cervantes. All of which leads us to the conclusion that the epicentral region of this earthquake included likewise the western slopes of the cordillera. It is not improbable that the fault-line in which the disturbance originated, runs from south to north along the canyon of the Abra River, across the subprovince of the same name, and follows the eastern boundary line of Ilocos Norte. Owing to the noises which preceded it, as well as to its direction and force, this earthquake revived in all the towns of this part of Luzon the memory of the one which took place in May, 1907, whose meizoseismic zone, very much elongated in the direction WNW–ESE, crossed the Central Cordillera close to the towering peak of Pacsan which rises a short distance north of parallel 18° N,[1] precisely where the axis of the meizoseismic area of the earthquake which we are describing, seems to have terminated. This latest earthquake was perceptible in the entire part of Luzon which lies north of parallel 16.4°, within an area of 250 kilometers in length and 190 in width. It must have been felt likewise on the Babuyanes Islands, but we have no news from these. Outside of the Archipelago it was registered throughout the Far East; it failed, however, to produce any record on the seismographs in Europe. The earthquake of 1907, though of much greater violence and extent than the one which we are discussing, left very feeble traces and these only on the instruments of the principal Observatories in Europe: whence we concluded at the time that, although it was of tectonic origin, its focus could not have

[1] See "The Seismic Centers in Northern Luzon: The Earthquake of May 25, 1907." Monthly Bulletin of the Weather Bureau of April, 1909.

been at a very great depth. The same conclusion would seem to apply to the earthquake of June 27, 1912. None of the reports received mentions the occurrence of aftershocks.

28, $14^h\ 20^m$ [28, $22^h\ 20^m$]. **Nueva Caceres** (SE of Luzon). Oscillatory earthquake. Direction NW–SE, intensity II–III, duration 3 seconds.

29, $13^h\ 3^m$ [29, $21^h\ 3^m$]. **Nueva Caceres** (SE of Luzon). Earthquake of intensity II.

29, $19^h\ 52^m$ [30, $3^h\ 52^m$]. **Cotabato** (SW of Mindanao). Oscillatory earthquake. Direction SW–NE, intensity III–IV, duration 5 seconds.

30, $17^h\ 12^m$ [July 1, $1^h\ 12^m$]. **Leyte Island.** Earthquake of force V, which was perceptible in the whole central and northern portion of the island. Its epicenter lay near the northwestern coast, north of parallel 11°.

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Mean Greenwich. Midnight=0^h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T_0=7, ϵ=3.6; A_E: T_0=7, ϵ=3. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A_N μ	A_E μ	
				h. m. s.				
121	2	I_r	eP	12 03 51				
			eS	06 22				
			eL	08 56				
			M_N	09 18	9-10	16		
			F	41				
122	4	I_v	eP	5 21 49				Northern Luzon.
			L	22 19				
			M_N	23 22	3	42		
			F	38				
123	4	I_d	eP	23 08 00				
			M_N	09 32	3	13		
			F	18				
124	5	I_r	eP	11 18 09				
			L	22 00				
			M_E	22 45	5		48	
			F	12 10				
125	7	I_r	e	3 43 01				Horizontal Pendulums.
			F	4 23				
126	7	I_r	e	10 07 ?				Do.
			F	11 17				
127	7	I_r	e	18 47 35				Do.
			F	19 34				
128	8	I_r	e	4 47 52				Do.
			F	5 20				
129	8	I_u	e	7 48 00				Do.
			F	9 57				
130	8	I_r	e	13 21 40				Do.
			F	57				
131	10	I_d	eP	0 10 10				
			L	10 22				
			F	15				
132	10	I_d	eP	1 06 13				
			L	06 24				
			F	09				
133	10	I_r	eP	16 17 59				
			F	18 01				
134	12	I_v	eP	0 34 12				Baguio (W of Luzon).
			L	34 34				
			M_E	34 37	1-2		144	
			F	43				
135	12	I_r	eP	13 03 08				Horizontal Pendulums.
			F	38				
136	12	I_r	eP	14 45 33				Do.
			F	15 48				

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. *m.* *s.*				
137	13	I_v	eP	20 19 54				Ambos Camarines.
			eL	20 20				
			F	24				
138	14	I_r	eP	15 59 47				
			L	16 03 44				
			M_E	04 15	6		33	
			F	22				
139	15	I_r	eP	0 11 19				
			L	16 57				
			M_N	18 55	7-8	29		
			F	48				
140	15	I_v	eP	2 16 29				Santo Domingo (Batanes Islands).
			L	18 17				
			M_N	18 59	5-6	17		
			F	27				
141	15	I_d	eP	15 45 35				
			F	48				
142	16	I_d	eP	16 25 56				
			L	26 19				
			M_E	26 38	3-4		23	
			F	28				
143	17	I_d	eP	5 40 09				
			F	43				
144	17	I_r	e	11 27 00				
			F	58				
145	18	II_v	eP	1 32 43				Northern Luzon.
			L	33 49				
			M_N	34 12	6-7	81		
			M_E	34 59	5-6		129	
			F	49				
146	18	I_r	e	12 09 00				
			L	17 19				
			M_N	20 49	12-13	5		
			F	13 07				
147	20	I_u	e	0 16 40				Horizontal Pendulums.
			F	46				
148	24	I_d	eP	15 09 59				
			L	10 18				
			M_N	10 27				
			F	14				
149	26	I_d	eP	10 29 33				
			L	31 03				
			M_E	31 07	6-7		15	
			F	50				
150	26	II_v	eP	14 27 29				Baguio (W of Luzon).
			L	28 19				
			M_N	29 17	7	424		
			M_E	30 02	4-5		948	
			F	15 09				
151	27	II_v	eP	1 05 54				Northwestern Luzon.
			L	06 50				
			M_N	07 30	7	246		
			M_E	08 22	7		417	
			F	28				
152	27	I_d	eP	13 43 00				
			eS	43 44				
			L	44 27				
			M_E	44 55	5		20	
			F	56				
153	27	I_d	eP	18 49 30				
			eS	50 02				
			L	50 55				
			M_E	51 20	5-6		26	
			F	58				
154	29	I_r	e	2 41 20				
			F	3 05				
155	29	I_r	e	8 10 45				
			F	41				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

4, $5^h\ 21^m\ 49^s$* [4, $13^h\ 21^m\ 49^s$]. **N de Luzón.** Temblor de tierra de intensidad IV, sentido en el extremo N de la isla que comprende las provincias de Ilocos Norte, Cagayan, y parte N de la Montañosa. Los seismógrafos de Taihoku (Formosa) lo registraron a $5^h\ 21^m\ 40^s$; el epicentro parece se hallaba en el Pacífico, cerca del paralelo 20° N. y del meridiano 124° E.

10, $20^h\ 32^m$ [11, $4^h\ 32^m$]. **Aparri** (N de Luzón). Temblor oscilatorio. Dirección N–S, intensidad III, duración 5 segundos.

12, $0^h\ 34^m\ 12^s$* [12, $8^h\ 34^m\ 12^s$]. **Baguio** (W de Luzón). Temblor oscilatorio y susultorio. Dirección E–W, intensidad II–III, duración 2 segundos. Repitió con menos intensidad a $7^h\ 17^m$ [$15^h\ 17^m$].

12, $11^h\ 52^m$ [12, $19^h\ 52^m$]. **Legaspi** (SE de Luzón). Temblor oscilatorio y susultorio. Dirección NNW–SSE, intensidad III, duración 6 segundos. Su epicentro se hallaba probablemente en el volcán Mayon.

13, $20^h\ 19^m\ 54^s$* [14, $4^h\ 19^m\ 54^s$]. **Ambos Camarines** (SE de Luzón). Temblor de tierra de intensidad III. En Nueva Cáceres se observaron oscilaciones en la dirección NNW–SSE. Fué también sentido en Atimonan (E de la provincia de Tayabas) con menos intensidad y dirección E–W. El epicentro se hallaba probablemente en el mar, no lejos de la costa N de Ambos Camarines.

14, $17^h\ 45^m$ [15, $1^h\ 45^m$]. **Isla de Panay.** Temblor de tierra de intensidad III–IV. Parece que fué perceptible en toda la parte central y oriental de la isla: tanto en Cápiz (costa N), como en Iloílo (costa SE) tuvo bastante intensidad y duración para despertar a varias personas. El haber ocurrido a altas horas de la noche es probablemente la causa de que las horas señaladas en las notas de Cápiz e Iloílo sean muy discordantes, como si se tratara de dos temblores diferentes. Creemos sin embargo que hubo un solo temblor de tierra de poca intensidad y mucha extensión.

15, $2^h\ 16^m\ 29^s$* [15, $10^h\ 16^m\ 29^s$]. **Santo Domingo** (Islas Batanes). Temblor de tierra oscilatorio y susultorio. Dirección SE–NW, intensidad III–IV, duración 5 segundos: precidido de ruido subterraneo (grado I).

15, $18^h\ 30^m$ [16, $2^h\ 30^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III.

18, $1^h\ 32^m\ 43^s$* [18, $9^h\ 32^m\ 43^s$]. **N de Luzón.** Temblor de tierra de intensidad IV, sentido en todo el N de Luzón comprendido por las provincias de Ilocos Norte, Cagayan, y parte N de la Montañosa. Su origen probablemente se hallaba al S de las islas Babuyanes.

18, $9^h\ 30^m$ [18, $17^h\ 30^m$]. **Cotabato** (SW de Mindanao). Temblor oscilatorio. Dirección SE–NW, intensidad III, duración 4 segundos.

23, $8^h\ 10^m$ [23, $16^h\ 10^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad II–III.

24, $23^h\ 19^m$ [25, $7^h\ 19^m$]. **Butuan** (N de Mindanao). Temblor de tierra de intensidad III. Repitió con menos fuerza a $13^h\ 51^m$ [$21^h\ 51^m$].

26, $14^h\ 27^m\ 29^s$* [26, $22^h\ 27^m\ 29^s$]. **Baguio** (W de Luzón). Temblor oscilatorio. Dirección E–W, intensidad II–III, duración 3 segundos. Origen probable hacia el E en la provincia de Nueva Vizcaya.

27, $1^h\ 5^m\ 54^s$* [27, $9^h\ 5^m\ 54^s$]. **NW de Luzón.** Terremoto de intensidad VI–VII, sentido

[1] La intensidad de los terremotos se indica conforme a la conocida escala de De Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

principalmente en las provincias de Ilocos Norte y Sur. Su área meizoséismica comprendió el centro y parte S de la provincia de Ilocos Norte, la parte N de Ilocos Sur, y la subprovincia de Abra. En la capital de Ilocos N, Laoag, y en todos los pueblos situados hacia el S y el E, el terremoto tuvo intensidad VI–VII, y en todas partes precedieron a los movimientos fuertes del suelo ruidos semejantes a detonaciones sordas, procedentes al parecer hacia de la cordillera que está al E. En Vigan y los pueblos vecinos, tuvo el terremoto alguna mayor intensidad y más larga duración que en Laoag, unos 20 segundos y oyerónse iguales ruidos que en Ilocos Norte, procedentes también del E. Faltan noticias de la subprovincia de Abra y de la provincia Montañosa que ocupa la cordillera. Parece sin embargo que a lo largo de parte de la cordillera debió tener igual o mayor intensidad que en las llanuras costales de Ilocos: esto lo persuade la intensidad IV que conservaban aun las ondas en Aparri y otros pueblos de la provincia de Cagayan, situados a una distancia aproximada de 80 kilómetros al E de la cordillera, y la intensidad V que tuvo en Cervantes, pueblo de la cordillera pero a unos 70 kilómetros al S del paralelo de Vigan. Además los pueblos de la costa de la parte meridional de Ilocos Sur y de la Unión lo sintieron con menos intensidad que en Cervantes: todo lo cual nos conduce a la conclusión de que el epicentro de este terremoto comprendía también la parte o vertiente W de la Cordillera Central. No nos parece improbable que la línea de fractura donde se originó corra de S a N a lo largo del cauce del rio Abra y del distrito o subprovincia de este nombre y por el límite oriental de Ilocos Norte. Lo cierto es que, debido sin duda tanto a los ruidos que le precedieron como a otras circunstancias de intensidad y dirección, este terremoto despertó en todos los pueblos de esa parte de Luzón el recuerdo de otro, ocurrido en Mayo de 1907, cuya zona meizoséismica muy prolongada en dirección WNW–ESE cruzaba la Cordillera Central por cerca del alto pico Pacsan, situado algo al norte del paralelo 18°,[1] precisamente donde parece terminaba la línea central del área meizoséismica del que describimos. Este último terremoto fué perceptible en todo el N de Luzón desde el paralelo 16.4°, en un área de 250 kilómetros de largo y 190 de ancho; también debió serlo en las islas Babuyanes, pero no poseemos dato alguno. Fuera del Archipiélago fué registrado en todo el Extremo Oriente; en Europa, no lo registraron los seismógrafos. El terremoto de 1907, de mucha mayor intensidad y extensión que éste, fué muy debilmente registrado solo en algunos de los principales Observatorios de Europa, de donde dedujimos que su origen aunque tectónico, no debía hallarse a excesiva profundidad. Ninguna de las notas recibidas menciona repetición alguna o aftershock.

28, $14^h\ 20^m$ [28, $22^h\ 20^m$]. **Nueva Cáceres** (SE de Luzón). Temblor oscilatorio. Dirección NW–SE, intensidad II–III, duración 3 segundos.

29, $13^h\ 3^m$ [29, $21^h\ 3^m$]. **Nueva Cáceres** (SE de Luzón). Temblor de tierra de intensidad II.

29, $19^h\ 52^m$ [30, $3^h\ 52^m$]. **Cotabato** (SW de Mindanao). Temblor oscilatorio. Dirección SW–NE, intensidad III–IV, duración 5 segundos.

30, $17^h\ 12^m$ [1 de Julio, $1^h\ 12^m$]. **Isla de Leyte.** Temblor de tierra de intensidad V, perceptible en toda la parte central y N de la isla. Su epicentro se hallaba cerca de la costa NW, al N del paralelo 11°.

Registros de los Microseismógrafos.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

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[1] Véase "Nota sobre los epicentros séismicos de la parte N de Luzón." Monthly Bulletin of the Weather Bureau for April, 1909.

BULLETIN FOR JULY, 1912.

METEOROLOGICAL BULLETIN FOR JULY, 1912.

By Rev. JOSÉ CORONAS, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure of the month exceeded everywhere the corresponding value for July of 1911, the greatest differences being found for northern Luzon. Nevertheless, if we compare the mean as it results for Manila with the normal pressure of the month, we find that it is 0.12 millimeter lower than the latter. The lowest barometer readings occurred for the most part on the 27th in the southernmost part of the Philippines, but on the 19th, 20th, or 31st in the northern Visayas and on Luzon; the highest readings were recorded nearly everywhere on the 4th.

As regards Manila and the stations south of it, the mean monthly temperature differed, as a rule, barely from that for July of the preceding year, but to the north of the capital, it was slightly higher.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS FOR JULY, 1912.

Station.	Pressure.						Temperature.					
	Mean.	Departure from July, 1911.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from July, 1911.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	757.78	+0.18	759.60	4	756.05	27	26.8	------	33.2	1	------	------
Surigao	57.59	+ .33	59.60	4	55.80	27	27	—0.6	33	23	22.7	10
Cebu	57.49	+ .19	59.22	4	55.85	27	27.4	+ .2	34	13	23	8, 29
Iloilo	57.46	+ .03	59.19	4	55.95	27	26.6	0	33	11	22.6	28
Ormoc	57.85	+ .40	59.56	4	56.05	27	26.3	— .2	32.3	12	20.9	11
Tacloban	57.57	+ .32	59.52	4	55.72	27	27.2	+ .1	35.4	12	22	23
Capiz	57.36	+ .26	59.26	4	55.64	19	26.4	— .2	34.2	25	20.9	30
Calbayog	57.51	+ .56	59.48	4	55.75	19	27.	0	33.8	25	22.4	12
Legaspi	57.29	+ .98	59.33	4	55.22	19	27.3	+ .3	36	12	21.6	31
Atimonan	57.03	+1.10	58.99	4	54.30	20	26.6	— .3	33.7	1	22.6	24
Paracale	57.11	+1.27	59.04	4	54.39	20	27.1	— .1	34.8	24	22.9	6, 15
Manila	57.17	+1.03	59	4	54.55	20	26.6	+ .2	35.2	2, 6	22.7	8
San Isidro	57.26	+1.51	59.09	4	54.48	20	26.6	+ .7	35.5	2	21.7	7
Dagupan	56.46	+1.03	58.02	4	53.39	20	27.2	+ .9	36.6	2, 6	21.8	8
Bolinao	56.35	+1.41	58.11	4	53.29	20	27.1	+ .9	34.5	1	22.9	24
Baguio[a]	635.09	+1.55	636.71	4	632.60	31	18.6	+ .9	25.8	8, 14	13	31
Vigan	756.40	+1.79	758.24	5	753.26	21	27.5	+ .8	33.4	19	22.2	10
Tuguegarao	56.70	+2.31	58.50	11	52.50	31	27.8	+ .3	39.8	6	22	24
Aparri	56.33	+2.01	58.02	4	51.63	31	27.8	+ .8	34.7	14	22.6	1, 12

[a] The barometric readings of this station are not reduced to sea level.

Precipitation.—The subjoined table of rainfall shows that out of a total of 49 stations whose observations are given, 33 report a smaller amount of rain than for the same month in 1911, while 16 had a greater amount. This must, however, not be construed to signify that the relative scarcity of rain in June continued during July. As our readers will presumably remember, July, 1911, was a month of most extraordinary

rains, especially in central and northern Luzon: hence it is not at all surprising if, on comparing the precipitation during July, 1912, with that of the corresponding month of the preceding year, negative differences are found to be the rule for the stations on Luzon. If we compare the actual rainfall with the normal amount for the month, we find that of the 25 stations for which the comparison is possible, 15 give positive, and only 10 negative differences. The amount of rain measured by the Manila rain gauges (529 millimeters) differs by −169.5 millimeters from the rainfall during July of 1911, though it exceeds the normal for the month by 130.5 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF JULY, 1912.

Station.	Total.	Departure from July, 1911.	Departure from normal.	Rainy days.	Departure from July, 1911.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from July, 1911.	Departure from normal.	Rainy days.	Departure from July, 1911.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*	*mm.*			*mm.*			*mm.*	*mm.*	*mm.*			*mm.*	
Isabela, Basilan	314.7	+ 197.8		20	+ 11	50.3	15	Sumay, Guam	157.6	— 202.5		23	— 4	22.8	24, 26
Zamboanga	141.5	+ 82.2	+ 49.5	16	+ 7	31.7	7	Calapan	350.4	+ 74		26	+ 4	45.2	7
Davao	171.3	+ 63.4	— 53.2	12	+ 6	49.5	24	Virac	396.2	— 23.5		24	+ 7	80.3	7, 17
Cotabato	321.6			22		38.4	24	Nueva Caceres	476.9	+ 21	+221.2	26	+ 4	117.7	17
Dapitan	374.7?			22		53.4	18	Batangas	421.1	— 51.5		22	+ 3	61.5	18
Butuan	177.8	+ 112.2	+ 51.9	18	+ 10	28.2	21	Atimonan	376.9	+ 67.7	+138.8	27	+ 5	68.1	18
Dumaguete	249	+ 82.9		17	+ 1	97.3	14	Silang	665.7	+ 210.8		24	+ 8	95.7	31
Yap, W. Carolines	417.8	— 744.4		28	— 2	66.3	27	Paracale	409.4	— 162.7		25	+ 7	70.4	17
Tagbilaran	564.9	+ 466.7	+ 264.5	21	+ 13	85.1	14	Sta. Cruz, La Laguna	247.8	— 236.9		23	— 3	46.2	20
Surigao	144.6	— 72.4	— 13.8	19	+ 6	57.9	3	Manila	529	— 169.5	+130.5	25	— 1	157.6	31
Maasin	397.5	— 95.8	+ 127.7	15	+ 3	88.9	26	Antipolo	594.8	?— 469.7		24	— 2	175.6	31
Cebu	224.9	+ 101	+ 42.5	19	+ 1	47	26	Iba	890.9	— 941.3		27	0	121.8	23
Iloilo	298.2	— 460.3	— 153.8	24	— 1	33.7	28	San Isidro	340.1	— 336.3	— 16.2	25	— 2	58.4	31
San Jose Buenavista	510.4	— 226.2		29	+ 1	73.9	28	Tarlac	429.6	— 495.3	— .5	22	— 3	67.8	7
Cuyo	528.2	— 261.4		26	0	78.3	18	Baler	486.6	+ 111.4		23	+ 3	86.4	28
Ormoc	380.9	+ 59.7	+ 80.7	22	+ 2	85.1	18	Dagupan	549	— 751.4	— 17.6	21	— 6	198.2	31
Guiuan	181?	— 8.8?		20	+ 3	41.1	8	Bolinao	728.9	—1,162.5	+ 75.7	26	— 1	206.3	30
Tacloban	223.1	— 7.5		23	+ 7	61.5	23	Baguio	583.8	—2,797.9	—363.3	28	— 1	224.9	31
Capiz	401.9	+ 179.7	+ 18.9	27	+ 5	74.5	9	San Fernando, Union	524.8	— 553.9	+ 11.3	26	+ 5	132.6	31
Borongan	176.6	+ 21.9	— 13.6	21	+ 4	33.8	13	Echagüe	138.1	— 139.1		16	— 4	37.3	7
Calbayog	192.8	— 70.3	— 25.6	25	+ 7	34	27	Candon	648.9	— 522.7		22	— 3	235.2	31
Masbate	198.8			21		35.5	20	Vigan	660.1	— 981.4	+ 52.7	24	+ 2	302.8	31
Romblon	459.1	+ 195.3		28	+ 5	57.1	1	Tuguegarao	229.9	— 322.7	+ 5.3	18	0	39.6	24
Laoang	140.8	—171.8?		19	+ 1	39.4	16	Laoag	589.8	— 494.1		22	+ 2	257.8	31
Gubat	148	— 106.4		16	— 1	32.3	7	Aparri	171.9	— 334.7	— 12.7	10	— 6	54.4	31
Legaspi	255.9	— 55.2	+ 2.4	22	— 1	52	27	Sto. Domingo, Batanes	217.4	— 226.2		18	— 3	80.3	31

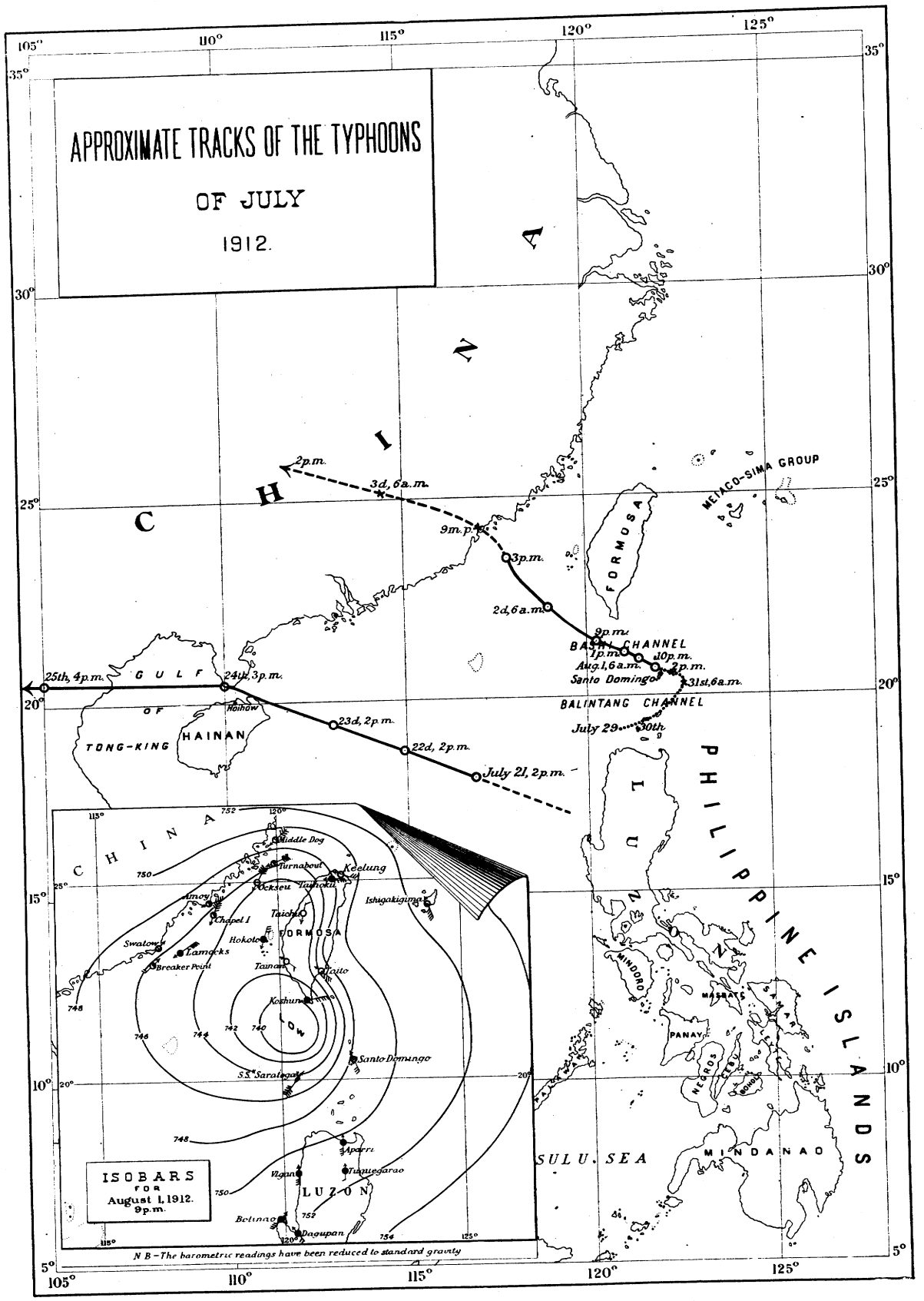
DEPRESSIONS AND TYPHOONS.

The Observatory had occasion to announce several depressions and typhoons during the month; but they may all be characterized as of little importance to the Philippines.

The typhoon of July 21 to 25, 1912.—The afternoon weather map for July 17th indicated the existence of a depression over the Pacific Ocean, east of Luzon. The map for 6 a. m. of the following day made it clear that there was question of an extended depression of very little significance which then lay over southeastern Luzon, Masbate Island, and the northern part of the Visayas, and whose center appeared to be situated to the northwest of Masbate, near the southern coast of Camarines Province. At 6 a. m. of the 19th, this depression had passed out into the China Sea, lying then to the west of Luzon, not far from the coast. From the afternoon of the same day onward, the Observatory announced that the phenomenon appeared to increase in intensity, and on the 21st it could hardly be doubted any longer that the depression had developed into a real typhoon, as was stated in the weather notes given to the public of Manila and in the warnings telegraphed to the stations in the Philippines as well as to the Central Observatories of Tokyo, Zikawei, Taihoku, Hongkong, and Phulien.

The track of this typhoon given on Plate I shows that from the 21st until the afternoon of the 24th, the storm advanced toward west-northwest, its vortex lying to the north of, and close to, Hainan Island at the latter date, as is evident from observations made at Hoihow, a station situated on the northern coast of Hainan. Thereafter

Plate I.


APPROXIMATE TRACKS OF THE TYPHOONS
OF JULY
1912.
105°
110°
115°
120°
125°
35°
30°
25°
20°
15°
10°
5°
C H I N A
2p.m.
3d, 6a.m.
9m.p.m.
3p.m.
2d, 6a.m.
9p.m.
1p.m.
10p.m.
Aug.1, 6a.m.
2p.m.
Santo Domingo
31st, 6a.m.
July 29
30th.
25th, 4p.m.
24th, 3p.m.
23d, 2p.m.
22d, 2p.m.
July 21, 2p.m.
FORMOSA
MEIACO-SIMA GROUP
BASHI CHANNEL
BALINTANG CHANNEL
GULF OF TONG-KING
HAINAN
Hainow
PHILIPPINE ISLANDS
LUZON
MINDORO
PANAY
NEGROS
MASBATE
SULU SEA
MINDANAO
Middle Dog
Turnabout
Keelung
Ockseu
Tuihoku
Amoy
Chapel I
Taichu
Ishigakigima
Swatow
Lamocks
Hokoto
Breaker Point
Tauna
Taito
Koshun
LOW
Santo Domingo
S.S. Saratoga
Aparri
Vigan
Tuguegarao
Baguio
Dagupan
ISOBARS
FOR
August 1, 1912.
9p.m.
748
746
744
742
740
750
752
754
N B – The barometric readings have been reduced to standard gravity

the typhoon took a due west direction and entered Indo-China south of Haiphong in the morning of July 25.

The typhoon of July 29 to August 3, 1912.—In the morning of July 27 there were signs of a depression over the Pacific Ocean, close to the Visayan Islands, which in the afternoon enveloped these islands in the form of a low-pressure area of very little import and ill-defined shape, and was passing on toward the China Sea. According to observations made in the morning of the 29th on board the steamer *Yuensang,* en route from Hongkong to Manila, there seems to have then still been a depression to the east of the Paracels, in the vicinity of meridian 116° E. In the meanwhile, a true cyclonic center began to form more to the north, between the northern coast of Luzon and the Balintang Channel. At first this storm moved to the northeast; but on the 31st, while its vortex lay east of the Batanes Islands, it recurved toward west-northwest. It seems, however, that the disturbance did not acquire its full development until it had passed north of Santo Domingo and was receding from that station. Hence it is, that the first part of its track shown on Plate I has only a probable value. On the 29th and 30th, the winds at Santo Domingo were from east-northeast, with a continually falling barometer; at 10 p. m. of the latter date they were already from northeast, and at 6 a. m. of the 31st from north-northwest. The barometric minimum at the said station was 744.05 millimeters and occurred at 6.50 a. m. of the 31st, that is to say, half a day after the winds had backed from north-northwest over west to south-southwest and south. At 9 p. m. of August 1st the vortex lay over Bashi Channel (see isobars for that hour, Plate I), whence it moved nearly toward northwest, entering the continent between Amoy and Swatow at 7 or 8 p. m. of August 2.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes es para todas las estaciones mayor que la de Julio del año pasado, correspondiendo las diferencias más notables al norte de la Isla de Luzón. Sin embargo, comparada la media de Manila con la normal de Julio, hallamos que difiere de ella en —0.12 mm. Las menores presiones ocurrieron generalmente el 27 en la parte más meridional de Filipinas; y el 19, 20 ó 31 en el norte de las Visayas y en Luzón. Las presiones mayores se observaron casi en todas partes el día 4.

La temperatura media mensual, por lo que toca a Manila y a las estaciones al sur de Manila, apenas difiere en general de la del año pasado, pero en las estaciones al norte de Manila resulta algo mayor.

Precipitación acuosa.—En la tabla de lluvia que acompaña el texto inglés se echará de ver que de 49 estaciones que contiene dicha tabla, 33 nos dan un total de lluvia menor que el de Julio, 1911, y 16 nos lo dan mayor. Con todo, no debe tomarse esto como indicio de que las lluvias han sido todavía este mes tan escasas como el anterior. En efecto, Julio de 1911, según recordarán nuestros lectores, fué un mes de lluvias muy extraordinarias, sobre todo para el centro y norte de Luzón: de donde no es de extrañar que abunden tanto las diferencias negativas en las estaciones de dicha isla al comparar la lluvia de Julio de este año con la del mismo mes del año anterior. En cambio, comparando la misma lluvia con la normal de Julio, hallamos que de 25 estaciones para las cuales hemos podido hacer esta comparación, 15 aparecen con diferencias positivas y sólo 10 con diferencias negativas. La cantidad de agua recogida en los pluviómetros de Manila (529 mm.) se diferencia de la de Julio 1911 en —169.5 mm., siendo así que supera a la normal en 130.5 mm.

DEPRESIONES Y TIFONES.

Varias depresiones y tifones ha anunciado este mes el Observatorio; pero puede decirse que todos han sido de poca importancia para Filipinas.

Tifón de 21 a 25 de Julio.—Los mapas del tiempo de la tarde del 17 señalaban la existencia de una depresión en el Pacífico al E de Luzón. A 6 a. m. del 18 se vió claramente que se trataba de una depresión dilatada de muy poca importancia, la cual envolvía entonces la parte sudeste de Luzón, la Isla Masbate y parte norte de las Islas Visayas, si bien el centro de la misma parecía poder situarse hacia el NW de Masbate en los alrededores de la costa meridional de la Provincia de Ambos Camarines. A 6 a. m. del 19 la depresión se había trasladado al Mar de China y se hallaba al W de Luzon y no lejos de la costa. Desde la tarde del mismo día anunció el Observatorio que la depresión parecía aumentar en intensidad, y el día 21 ya apenas podía caber la menor duda de que se había desarrollado y convertido en un verdadero tifón, como se dijo en efecto en las notas del tiempo para la Capital y en los avisos de tifón enviados a las estaciones secundarias de Filipinas y a los Observatorios de Tokio, Zikawei, Taihoku, Hongkong y Phulien.

Según pueden ver nuestros lectores en la lámina I, el tifón se movió al WNW desde el 21 hasta la tarde del 24, cuando el vórtice se hallaba al N y no lejos de la Isla de Hainán, según observaciones que poseemos de la estación de Hoihow, en la costa septentrional de Hainán. Desde la tarde del 24 se dirigió el tifón al W, penetrando en Indochina por el sur de Haiphong la mañana del 25.

Tifón de 29 de Julio a 3 de Agosto.—La mañana del 27 había indicios de una depresión en el Pacífico cerca de las Islas Visayas, la cual envolvía por la tarde dichas islas en forma de un área de baja presión de muy poca importancia que se fué trasladando aunque de una manera muy poco definida al Mar de China. El día 29 por la mañana, a

juzgar por las observaciones hechas a bordo del vapor "Yuensang" en viaje de Hongkong a Manila, parece que existía aún una depresión al E de Paracels en los alrededores del meridiano 116° E. Entre tanto un verdadero centro ciclónico empezaba a desarrollarse más al norte entre la costa norte de Luzón y el canal de Balintang. Este tifón se movió primero al NE hasta que el día 31 recurvó al WNW cuando se hallaba el vórtice al E de las Islas Batanes. Parece probable que no adquirió este tifón completo desarrollo hasta después de haber pasado por el norte y a la menor distancia de Santo Domingo. De ahí que no podamos dar un valor más que probable a la primera parte de la trayectoria de este baguio (véase lámina I). Los vientos en Santo Domingo fueron del ENE el 29 y 30 con barómetros siempre bajando; a 10 p. m. del 30 el viento era ya del NE, y a 6 a. m. del 31, del NNW. La mínima barométrica allí observada fué 744.05 mm. y tuvo lugar a 6.50 a. m. del día 1 de Agosto, es decir, mediodía después de haber rolado los vientos del NNW al SSW y S por el W. El vórtice se hallaba en el canal de Bashi a 9 p. m. del 1 de Agosto (véanse las isobaras de dicha hora en la lámina I) y desde allí se movió casi al NW, penetrando en el Continente por entre Amoy y Swatow a 7 ú 8 p. m. del día 2.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[a]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Day.	Pressure (mean).	Air temperature.[b] Mean.	Maximum.	Minimum.	Underground temperature. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity (mean).	Vapor pressure (mean).	Evaporation.[b] Free exposure (total).	Shelter (total).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	*Per ct.*	*mm.*	*mm.*	*mm.*
1	757.83	28.5	34.7	24.6	31.3	35.1	32.7	34	30.1	29.2	79.1	22.5	4.1	3.3
2	57.55	28.2	35.2	24.5	32.8	34.2	33.8	34	30.9	.....	79.8	22.3	3.9	3.1
3	57.97	27.3	33.2	23	32.7	33.2	33.8	33.8	31.6	.....	84.5	22.6	2.6	2.3
4	59	26.5	32	24	31.4	32.1	33	33.1	31.5	.....	89.6	23	1	1.4
5	58.76	27.5	33.6	24	31	32.2	32.4	32.7	31.7	.....	82.4	22.3	3.4	2.6
6	57.99	28.1	35.2	24	31.2	32.7	32.4	32.8	31.6	.....	80.8	22.3	4.1	3.5
7	57.40	27.1	33.6	23.5	31.5	32.2	32.2	32.6	31.5	.....	82.9	22	2.3	2.2
8	57.27	26.6	31.7	22.7	31.2	31.2	32.2	32	32.2	.....	85.4	22	1.3	1.2
9	57.17	26.3	31.2	24.2	30.7	31.3	31.7	31.8	31.7	.....	87.4	22.1	1.5	1.3
10	57.83	27.3	33.6	24	30.3	31.3	31.4	31.7	31.3	.....	80.6	21.5	3.6	2.7
11	58.20	28	34.2	24.7	30.6	32.1	31.5	31.7	31.3	30.2	79	21.9	3.7	2.9
12	57.84	28.1	33.9	23.7	30.6	31.5	31.5	31.8	31.3	30.2	77.2	21.6	3.6	2.9
13	57.60	27	32.9	23.4	30.3	30.9	31.4	31.5	31.2	30.1	81.9	21.5	2.3	2
14	57.76	27.6	33.8	24.5	30.5	31.3	31.4	31.5	31.2	30.2	82.5	22.4	3.3	2.7
15	58	28.2	34	23.6	30.2	31.3	31.2	31.4	31.1	30.1	75.9	21.4	4.7	3.6
16	58.09	26.5	32.7	24.1	30.5	31.1	31.4	31.6	31	30.1	82.3	21.1	2.3	2
17	57.61	26.2	30	23.1	30.1	30.5	31.1	31.3	31.1	29.6	86.2	21.7	1.5	1.4
18	56.32	25.8	29.7	23.6	29.6	30	31.2	31.1	30.8	29.9	89.2	22	.8	1.3
19	54.80	26	31.7	24	29.3	30.2	30.7	31	30.9	29.7	89.3	22.3	1.1	1.2
20	54.55	26.3	32.5	23.9	29.4	30.5	30.6	30.9	30.9	29.8	89.9	22.8	1.2	1.5
21	55.24	25.5	29	24.3	29.5	29.5	30.6	30.6	30.8	29.9	90.9	22	0	1.1
22	56.13	25.5	29.9	23.9	28.7	28.8	30	30	30.8	29.9	88.7	21.5	.7	1.5
23	56.22	26.3	31.8	23.9	28.6	29.6	30	30	31.1	29.8	85.4	21.6	1.9	1.7
24	56.93	26.5	32.1	23.7	28.7	29.8	29.5	29.9	30.8	30	82.8	21.2	2.9	2.3
25	57.87	26.3	31.9	23.6	28.7	29.7	29.8	29.8	30.7	29.8	83.2	21	3.2	2.6
26	57.89	26.7	32.5	23	29.5	30	29.9	30.2	30.6	30.2	81.9	21.2	3.2	2.5
27	56.56	26.4	32.4	24	29.5	30.3	30.2	30.1	30.6	29.9	86.2	21.9	1.5	1.7
28	55.83	25.4	28.9	23.7	29.1	29.5	30.2	29.9	31.1	30.4	90	21.6	.9	1.2
29	56.72	25.2	29.7	23	28.5	28.6	29.8	29.8	30.4	29.8	92.2	21.9	.4	1.1
30	57.25	24.5	26.1	23.2	27.3	27.1	29	29.1	30.3	29.6	92.5	21.1	0	.9
31	55.94	24.3	26.4	22.8	26.6	26.2	28.5	28.4	30.3	29.3	93.8	21.2	0	.6
Mean	757.17	26.6	31.9	23.7	30	30.8	31.1	31.3	31	29.9	85	21.9	2.2	2
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	67	62.3
Departure from normal	—0.12	—0.5	+1	+0.1	.....	.....	.....	.....	.....	.....	+0.2	—0.5	.....	.....

Day.	Wind. Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Sunshine.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	*Km.*		*0–10.*			*h.* *m.*	*mm.*	
1	W quad.	209.5	23.5	WSW	6.8	Ci.	Cu. SE	8 40	0.7	⌐◹ d p.
2	E quad.	210.5	22	WSW	7.6	Ci.	Cu. SSE	8 05	16.6	⌐◹ ● ↘ p.
3	E quad.	191	18.5	S	8.6	Ci.-S. E	Cu. SE	4 40	20.5	⌐◹ ● p.
4	W quad.	141	20	WSW	8.6	Ci.-S.	Cu.-N. ESE, SW	0 35	7.3	d a. ⌐◹^{2} ● ◠^{2} p.
5	SE, WSW	189.5	19.5	WSW	6.2	Ci., A.-Cu.	Cu. SE quad.	8 40	.3	d ⌐◹ ◠ p° p.
6	S quad.	150.5	17	SW	4	Ci. E	Cu. E	9 45	6	⌐◹ ● ⊤° p.
7	W quad.	187.5	18	WNW, E	5.5	Ci.-S. ENE	Cu. SE	6 00	13.1	⌐◹ ● ⊤^{2} p.
8	W quad.	87.5	9.5	WNW	9.6	Ci.-S.	Cu.-N. ESE	1 25	8.7	● ⌐◹° p.
9	E quad.	72.5	9	WSW	10	.....	Cu.-N. E	0 10	1.3	d° a. p.
10	E quad.	156.5	14.5	SE	9.2	Ci.-S.	Cu.-N. SE quad.	3 05	.....	◯ a. ⌐◹ p.
11	SE quad.	130.5	12.5	ESE	7.7	Ci., Ci.-S.	Cu. SE, E	5 35	.....	
12	WNW, NNE	147	14.5	WNW	6.7	Ci.-S.	Cu. ESE	5 50	.....	⌐◹ ↘ p.
13	W	101.5	8.5	W	8.1	A.-Cu. SE	Cu.-N. E by S	3 05	.8	⌐◹ ◠ ● p.
14	S quad.	180.5	21	NNE	9.1	Ci.-S.	Cu. E	3 30	.....	⌐◹ p.
15	NE quad.	133	15	WNW	7.6	Ci.	Cu. E	8 45	.....	⌐◹ p.
16	NE quad.	186	14.5	ENE	9	Ci.-S. ESE	Cu.-N. SE	3 35	.3	⌐◹ d ● p.
17	Variable	79	7.5	N	9.7	Ci.-S.	Cu.-N. E	0 00	.5	d° ●° p.
18	N quad.	164.5	14	N by W	10	Ci.-S.	N. E	0 00	5.7	● a. p.
19	E quad.	150	15	SSW	9.8	Ci.-S.	N.	1 40	9.3	d a. ● ⊤ p.
20	S quad.	118	14.5	W by S	9.8	A.-Cu. W	Cu.-N. SSW	2 35	23.8	⊕ ● p.
21	S quad.	297	44	SW	10	Ci.-S.	Fr.-N. SW	0 00	29.8	● a. p. ↙″ p.
22	S quad.	300	31	S by W	10	Ci.-S.	Fr.-N. SW by W	0 00	19.5	● a. p. ↙″° p.
23	SSE, SSW	262	35	SSW	10	A.-Cu. NW	Cu.-N. SW	0 10	13.4	● ↙″° p.
24	SW quad.	287.5	38	SW by W	9.4	A.-Cu.	Cu.-N. WSW	5 55	8.6	● p.
25	SW quad.	253.5	25	WSW	8.6	Ci.-S. NE	Cu.-N. SW	6 50	1	d ●° a. d° p.
26	S quad.	111	16.5	SSW	6.2	Ci.-S.	cu.,cu.-N. WbyS, W	7 30	.....	↘ p.
27	Variable	104	18	NW	9.4	Ci.-S.	Cu.-N. E quad.	3 20	25.9	● p.
28	N quad.	156	15	NNE, NNW	10	A.-S., Ci.-S.	N.-cf. N quad.	0 00	6.7	● a. p.
29	SW quad.	265	39	SW	10	Ci.-S.	N. SW	0 00	89.1	● a. p. ●^{2} ↙″° p.
30	SW quad.	427.5	40	SW	10	.....	N. WSW	0 00	62.5	● a. p. ↙″° p.
31	S quad.	269.5	24	WNW	10	Ci.-S.	N. WSW	0 00	157.6	⌐◹ ↙″ a. ● a. p.
Mean	.....	186.1	20.5	.....	8.6	.....	.....	3 32	.....	
Total	.....	.....	.....	.....	.....	.....	.....	109 25	529	
Departure from normal	.....	—85.9	.....	.....	+0.8	.....	.....	—40 00	+130.5	

[a] All the mean values given in this table are deduced from hourly observations.
[b] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[a]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 26.2 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.09	27.2	33.2	.....	86.3	SE	0.8	9	Ci.-S.	Cu. SE	53.3	
2	58.17	26.6	30.6	.....	91.8	Variable	.8	10	Ci.-S.	Fr.-N. S	71.6	⌈☾² a. ●² a. p. ⊤² ☾°
3	58.90	26.1	31.3	.....	92.8	SW, S	1	9.8	Ci.-S.	Fr.-N. S quad.	65.5	●²a. p.
4	59.60	26.6	31.3	.....	88.3	SE quad.	.8	8.7	Ci.-S.	Cu.-N. SE	6.9	●° a. d° ☾° p.
5	58.98	26.8	32.8	.....	89.7	SSE, NE	.3	8	Ci.-S.	Cu. NE, S	19.8	● a. ☾² p.
6	58.02	25.6	31.1	.....	94.5	Variable	.8	7	Ci.-S.	Cu. NE	1.5	⌈☾² ● a. ●° ⊤² p.
7	57.49	25.9	32	.....	91.3	SSE, S	1	4.7	Ci.-S.	Cu. E	13	●° d°◠² p.
8	57.12	27	31.4	.....	85.7	SE	1	7	Ci.-S.	Cu.	67.6	● d° a.
9	57.47	26.3	30.9	.....	91.2	S quad.	1.3	8.8	Ci.-S.	N., Cu. SSW, S	7.6	●² a. d° ● p.
10	58.08	26.8	32.3	.....	89.2	S quad.	1	6.5	Ci.-S.	Cu. S	.....	
11	58.16	27.5	33.1	.....	86	Variable	.8	1.8	Ci.	Cu. N	.....	
12	57.51	28	33	.....	86.8	SE, S	.7	3.5	Ci.	Cu. ENE, SE	.....	
13	57.10	28.1	32.8	.....	90.2	S	.8	5.3	Ci.-S.	Cu. NNE, E	.....	⊤² ☾° p.
14	57.76	27.6	32.8	.....	90.8	NE, S	1.2	5.7	Ci.-S.	Cu. S	85.1	● a. ●² ⌈☾² p.
15	57.94	26.7	31.7	.....	88.8	S quad.	.7	9.2	Ci.-S.	Cu.-N., Fr-N. E	.....	⌈☾² ●² a. ◠² ⊤° p.
16	57.91	27	32.4	.....	89.8	S, SSW	.7	8.3	Ci.-S.	Cu.	10.9	d° ⌈☾² p.
17	57.50	25.5	31.2	.....	96.5	S quad.	1.2	10	Ci.-S.	Fr.-N. S, NE	44.2	● ⌈☾² a. d° p.
18	56.98	26.6	31.2	.....	89.2	SW quad.	1.8	10	Ci.-S.	Fr.-N. SSW	9.6	●² a. ●° p.
19	56.80	26.5	30.9	.....	91.2	SSW	1.5	9.8	Ci.-S.	Fr.-N. S	8.4	●° a.
20	57.65	26.9	32.3	.....	88	SSW	1.7	9	Ci.-S.	N. SW	5.3	● d° a.
21	57.93	27.3	31.6	.....	89.5	SSW	1.3	10	Ci.-S.	Cu. S	7.1	● a.
22	57.91	26.2	29.8	.....	92.2	SW quad.	1.2	10	Ci.-S.	Fr.-N SSW, E	.....	● a.
23	57.30	27.8	32.6	.....	86	S, SSE	.8	8.3	Ci.-S.	Cu. E, NE	4.6	⊤° ●° ☾° p.
24	57.87	26.4	33.4	.....	88.3	S	.8	6.8	A.-Cu., Ci. E, SE	N., Fr-Cu. E	4.9	☾° ●° a. ● p.
25	58.15	27.4	32.2	.....	86.3	SE quad.	1	8	Ci.-S.	Cu. N	.....	
26	57.55	25.4	32.8	.....	92.7	Variable	.8	7.8	Ci. ENE	Cu. SSE, SSW	48	●² ⊤² ⌈☾° p.
27	56.05	26	31.6	.....	91.8	E, SE	.3	9.3	Ci.-S	Cu. NE, NW	26.9	●²p.
28	56.75	26.4	30.7	.....	90	S quad.	1.3	9.5	Ci.-S.	Cu. S	.....	
29	57.95	27.5	32.7	.....	85.3	SW quad	2	6.8	A.-Cu. W	Cu. S	.....	☋° p.
30	58.35	27.7	32.2	.....	84	S	1	5.3	Ci.-S.	Cu. SE, SSE	.....	
31	57.99	26.9	32.3	.....	85.3	SE quad.	1.3	6.8	Ci. SE	Fr.-Cu. SSW	3.1	d° ●° p.
Mean	757.78	26.8	31.9	.....	89.3	.....	1	7.8	.....	.....	.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	564.9	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.98	27.6	32.6	24	83.5	ENE	0.2	7	Ci.-S.	Cu.	.....	● ○ ⌈☾ a. ☋° p.
2	58.12	25.6	27	24.6	92.8	Calm	0	9.8	Ci.-S.	Cu.-N.	3.9	d ●° a.
3	58.84	25.3	31.4	23	89.8	ENE, SSW	.5	10	Ci.-S.	N. E	57.9	d ●² p.
4	59.60	25.9	29.6	23	87.2	ESE	.5	8.3	Ci.-S.	Cu.-N. SE	.....	☾° p.
5	58.74	27.1	32.5	23	83.8	ENE	.5	5.2	Ci.-S.	Cu.-N.	6.9	☌☌° ⌈☾ ● d p.
6	58.03	26.5	31	23.6	87	NE,E	.3	7	Ci.-S.	Cu.-N.	.....	d° a. ☾° p.
7	57.42	27.3	32.1	22.9	83.7	E quad.	1	5	Ci.-S.	Cu.-N.	3.3	☊ a. d ●° p.
8	56.98	26.6	31.5	23.3	86.2	Variable	.7	5.8	Ci.-S.	Cu.-N.	3.5	● p.
9	57.55	26.2	30.4	23.7	87.2	NNW	.2	7.5	Ci.-S.	Cu.-N. E	.3	d a.
10	58.13	27.1	32.5	22.7	81.7	ENE	.5	4	Ci.-S.	Cu.-N.	.....	
11	58.01	27.6	32.6	23.3	83	E	.5	.7	Ci.-S., Ci.	Cu.-N. E	.....	☊ a. ☾° p.
12	57.46	27.6	32.1	23.5	84	NW, NNE	.3	1.8	Ci., Ci.-S.	Cu.	.3	☊ a. ○ ☾° p.
13	57.10	27.6	31.4	24.3	86.5	NE, SW	.3	3	Ci., Ci.-S.	Cu.-N.	.....	●° a. ◠ ☾° d° p.
14	57.43	26.8	31	24	87.3	NW	.5	5.7	Ci.-S.	Cu.	17.5	○ a. ⌈☾ ● d p.
15	58.01	26.3	31	24	88.8	E, ENE	.5	7.7	Ci.-S., Ci.	Cu.-N.	.....	d a. ☾° p.
16	57.64	26.7	31.1	23	85.2	WNW	.5	5.2	Ci.-S.	Cu. WbyS	7.4	d a. ● ⌈☾° d p.
17	57.20	26.7	30.4	23.7	85.5	Variable	.5	8.2	Ci.-S.	Cu.-N. WNW	2	d a. ● p.
18	56.54	27.1	31.5	23.5	80.5	SW	1.5	8.7	Ci.-S.	Cu.-N. SW	.....	d° p.
19	56.39	27.6	31.1	25.2	77.2	SW	1.8	9.5	Ci.-S.	Cu.-N.	6.6	○ d° ● p.
20	57.32	27	30.6	23.6	82	SW	1.5	9.7	Ci.-S.	Cu.-N.	2.5	d° p.
21	57.74	26.9	31	23.9	85.3	E, SSW	.3	9	Ci.-S.	Cu.-N.	.8	d ● a. d° p.
22	57.50	26.6	30	24	82.8	SW quad.	.5	9.7	.....	N.	.....	d a. d° p.
23	57.06	28.1	33	24.3	75	WSW	.5	4.8	A.-Cu.	Cu.-N. W	.....	☌☌ ☾° p.
24	57.44	28.2	32	25	75.5	SW	1	4.3	Ci.-S.	S.-Cu.	.5	☾° p.
25	57.84	27	31.3	23.8	81	SSW	.7	8.5	Ci.-S.	Cu.-N. W	.3	● a. d° ●° p.
26	57.17	26.6	30.5	24.3	84.5	WNW	.5	8	A.-Cu.	Cu.-N. WNW	4.1	d° ● p.
27	55.80	25.7	29	23.5	90	WSW	.5	8.8	A.-Cu., Ci.-S.	Cu.-N. NNW	23.6	● a. d° p.
28	56.40	27.6	30.9	24.8	77.7	SW quad.	1.2	9.5	Ci.-S.	Cu.-N. WSW	.3	● d a. ☋ ☾° p.
29	57.84	27.9	32.3	24.1	75.5	Variable	.5	6.3	Ci.-S.	Cu.	2.3	☾° p.
30	58.15	27.4	31.5	23.9	82.5	W	1	7.2	Ci.-S.	Cu.	.6	● ⌈☾ a. d p.
31	57.82	27.8	32.5	25	77.8	W quad.	.8	7.8	A.-Cu.	S.-Cu.	.....	☋ p.
Mean	757.59	27	31.2	23.8	83.6	.....	.6	6.9	.....	.....	.....	
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	144.6	

[a] All the mean values given in these tables are deduced from six daily observations.

Meteorological data for first and second class stations—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	757.80	28.4	32.7	25.6	74.2	E, SSW	0.3	5.2	Ci.	Cu. E	-------	☊² a. ⌐◪ a. p.
2	57.98	26.9	29.8	24.9	80.3	SW, SE	.3	8	Ci.-S.	Cu.-N. E	-------	☊ a. d° ◡ p.
3	58.66	26.4	31.7	24.5	86.8	SE, NE	.3	7.3	A.-Cu. E	Cu.-N., N. SW	14.3	☊ a. p. ⌐◪ ● p.
4	59.22	27.7	32.4	24.5	76.2	SW, E	.3	6.8	Ci.-S.	S.-cu.,cu.-N. SW,E	11.9	☊² a. ⌐◪ ◟ p.
5	58.76	27.7	31.8	23.4	77.2	SE	.7	6	Ci.-S.	Cu.-N. SW	1.8	☊² ● a. ⌐◪ a. p.
6	57.84	28.3	32.6	24.4	76.5	SE	.2	5.3	Ci.	Cu. E	.8	●° a ⌐◪ p.
7	57.06	28.1	32	23.2	77.3	E	.7	5.8	Ci.	Cu.-N E	26.2	● ◟ a. p. ⌐◪° p.
8	56.98	26.9	31.6	23	80.5	S	.3	6.2	Ci., Ci.-S	Cu., Cu.-N.	.8	● a. ⌐◪ a. p. d p.
9	57.24	27	30.9	24.2	81.8	SSW	.2	8.3	Ci.-S.	Cu.-N. SSW	-------	d ⌐◪ a. d° p.
10	58.02	27.5	31.8	24.4	77.2	S	.2	6.2	Ci.	Cu. SSW	-------	☊² a. ◟ p.
11	57.94	28.5	32.9	23.7	69.3	Variable	.5	4.8	Ci.	Cu., Cu.-N. E	-------	☊² a. ⌐◪ ⊤ p.
12	57.33	29.1	33.4	24.7	67.2	S	.3	4	Ci.	Cu.	-------	☊ a. ◟ p.
13	56.90	29.1	34	25.5	75.8	S	.3	5.7	Ci., Ci.-S.	Cu.	10.7	☊ a. ⌐◪ p.
14	57.48	27.9	31.2	24.4	81.3	E, NW	.5	6.7	Ci.	Cu.-N. SE, S	19.6	d a. ⌐◪ ● a. p.
15	57.96	27.1	31.9	23.3	78.7	SW, W	.3	6.8	Ci.-S.	Cu. E	-------	●° a. ☊ ⌐◪ p.
16	57.70	26.8	31	24.9	84.2	S	.2	7.8	Ci.-S.	Cu.-N.	10.7	☊ a. ⌐◪ ● a. p.
17	57.25	26.6	31.3	24.3	85.3	SE	.2	7.3	Ci.-S.	Cu.-N. W, NE	8.6	○ a. ⌐◪ a. p. ●° p.
18	56.59	26.7	30.3	24.9	81	SW, SSW	.3	7.5	Ci.-S.	Cu.-N. SW	3.8	☊² d a. ⌐◪ ● p.
19	56.25	26.2	29.4	23.4	81.7	SW	.7	9.3	Ci.-S.	N.-cf. SW	10.3	☊ a. ● p.
20	56.97	27.2	30	24.4	77.3	SW	1.5	7.7	Ci.-S.	N.-cf. SW	-------	d ◡ a. ☊ p.
21	57.45	27.4	31.2	25	73.5	SW	1	7.8	Ci.-S., A.-Cu.	Variable SW	.5	☊ a. ⌐◪ d p.
22	57.46	27.3	30.5	24.5	75.8	SW	.3	8.3	Variable	S.-Cu. W	-------	
23	56.90	28.2	32.7	24.4	74.7	SSW	.7	5.8	Ci., Ci.-S.	Cu. SW	-------	☊ a. ⌐◪ p.
24	57.50	27.8	31.2	23.9	71	SW	.5	5.8	Ci., Ci.-S.	Cu. W	-------	☋ p.
25	57.93	28.3	32.4	24.9	71.2	SW	.3	5.8	Ci.-S.	Cu. WSW	-------	☊ a. ⌐◪ ◡ p.
26	57.34	26.2	32.2	23.8	84.5	Variable	.7	6.7	Ci.	Cu.-N. E, ENE	47	☊ a. ⌐◪ a. p. ● p.
27	55.85	26.6	31.2	23.5	80.3	S	.2	7.5	Ci.-S.	Cu.-N. W	3.5	●° a. p. ⌐◪ ◡° p.
28	56.30	26.1	29.5	24.2	84.5	SSW	.5	8.3	Ci.-S.	Cu.-N. WSW	31.5	☊ ●° a. ◡ ●² p.
29	57.73	27	30	23	78.3	SW	.7	7.2	Ci.-S.	Cu.-N. SW	-------	○° a. ◟ p.
30	57.99	27.2	31.9	24.2	78.7	SW	.8	6	Ci.-S.	Cu. SW	16.8	☋ a. p. ● ⌐◪ p.
31	57.83	26	30.5	23.3	80.5	SW	.5	6.3	Ci.	Cu. WSW	6.1	☊ ☋ a. ⌐◪ ● p.
Mean	757.49	27.4	31.5	24.2	78.2		.5	6.7				
Total											224.9	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6.5 meters; gravity correction not applied —1.84 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	757.66	28.4	32.1	25.1	74.5	SW, N	1	5	Ci.	Cu.	1	⊤ ⌐◪ ◟ ● p.
2	58.02	26.2	28.4	24.2	85.2	SW	1	9.3	Ci.-S.	Cu.	1.9	◟ ● a. d p.
3	58.36	26.1	30.6	23.4	85.5	SW, SE	1	9.5	Ci.-S.	Cu.-N.	30.2	d ● a. p.
4	59.19	26.3	30.4	23.9	82.7	SW	.8	9	Ci., Ci.-S.	Cu., Cu.-N.	4.6	d ● ⊤ ◟ p.
5	58.76	26.7	31	24	80.3	SW	.8	5.5	Ci.	Cu.	1.3	⊤ ● d ◟ p.
6	57.66	27.2	32.8	23.6	79.5	Variable	.8	4.5	Ci., Ci.-S.	Cu.	-------	⊤ ◟ p.
7	56.94	27.4	32.6	24.7	78	NE quad.	1	6.3	Ci.	Cu.	8.1	⊤ ⌐◪ ◟ d p.
8	56.98	26.1	29.6	24	86.2	N quad.	.7	8.2	Ci.-S.	Cu.-N.	7.7	● a. p.
9	57.11	26.1	30	23	84.8	S quad.	.7	8.3	Ci.-S.	Cu.	8.6	⊤ ● p.
10	57.97	26.9	30.3	24.5	82.7	SW	1.2	8	Ci.-S.	Cu.	11.2	● a. p. ○ ⌐◪ ◟ p.
11	58.05	27.6	33	23.4	78.2	N	.8	6.3	Ci.-S.	Cu.	-------	○ a. ⊤ ◟ d p.
12	57.53	27.7	32.6	24.5	77.5	NE	.8	6.7	Ci.-S.	Cu.	-------	●° a. ◟ a. p. ⊤ p.
13	56.84	27.3	32.1	24	80.7	NE	.8	6.5	Ci., Ci.-Cu. SE	Cu.	25.7	d a. p. ⌐◪ ● ◟ p.
14	57.25	26.2	30.1	23.3	89.3	N, E	1	7.8	Ci.-S.	Cu.	8.9	⊤ a. ◟ ● a. p. ⌐◪ p.
15	57.80	27.2	30.3	24.5	79.8	SW	.7	9.2	Ci.-S.	Cu.	1	○ a. ◟ p.
16	57.97	26.7	28.9	25.2	81.3	SW	.8	9.7	Ci.-S.	Cu.	.5	d ●° a. ⊤ p.
17	57.28	26.7	30.4	23.5	80.3	SW	.5	8.7	Ci.-S.	Cu.	-------	d ◟ p.
18	56.46	26.2	29.5	23.9	85.2	SW	1.5	10	Ci.-S.	Cu.	4.1	d ●° a. p.
19	56.04	25.8	29.2	23.4	83.3	SW	2.8	9.5	Ci.-S.	Cu.-N., Cu.	29.1	● a. p.
20	56.77	26.1	29.7	23.6	83.7	SW	3.3	10	Ci.-S.	Cu.-N.	10.1	● ◡°° a. p. ◟ p.
21	56.98	26	29.6	23	84.3	SW	1.5	9.7	Ci.-S.	Cu.-N. SE	19	● a. p. ⊤ ◟ ⌐◪ p.
22	57.44	27.1	29.1	23.7	79.5	SW	1.2	9.8	Ci.-S.	Cu.	15.2	d ● a. p. ☋ p.
23	57.35	26.8	30	24.3	79.5	SW	1.5	9.5	Ci.-S.	Cu.	4.9	● p.
24	57.46	26.7	30	23.4	75.8	SW quad.	1.3	6.8	Ci.	Cu.	.8	● a. p.
25	57.84	27.6	31.1	24.3	73.7	SW, S	.8	7.3	Ci., A.-Cu. NW	Cu.	-------	⊤ ◟ d p.
26	57.68	25.7	30.9	23.7	84.5	Variable	.8	8	Ci., A.-Cu. NE	Cu.	18.8	● ◟ p.
27	55.95	25.8	30.2	23.9	84.8	Variable	.8	8.3	Ci.-S.	Cu.	7.8	⊤ ● p.
28	56.44	25.8	29.2	22.6	85.8	SW	2.3	8.8	Ci.-S.	Cu. SW	33.7	● a. p. d ⊤ p.
29	57.68	25.2	28	23.8	89.7	SW	1.5	9.2	Ci.-S.	Cu.-N.	20.1	● a. ◟ p.
30	58.15	26.3	30	22.8	86	SW	1.5	9.5	Ci.-S.	Cu. SW	14.5	● a. p.
31	57.72	25.8	29.9	23.6	84.2	SW, S	1.5	9	Ci.-S.	Cu. SW	9.4	● p.
Mean	757.46	26.6	30.4	23.8	82.1		1.2	8.2				
Total											298.2	

Meteorological data for first and second class stations—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.09	27.3	31.7	22.5	80.8	S	0.3	8.3	Ci.-S.	Cu.-N. ESE	0.3	☾ ☋ a. p.
2	58.29	26.1	29.8	23.3	87	Variable	.2	9.5	Ci.-S.	Cu.-N.	23	● ⊥ a. d a. p. ☋ p.
3	58.98	25.7	29.9	23.1	86.8	Variable	.7	9.7	A.-Cu. ESE	Cu.-N.	6.9	● ⊕ a. ⊤° d p.
4	59.56	26.5	30	23.6	83.5	Variable	.7	9.5	Ci.-S.	Cu.-N.	-------	☋ p.
5	59.06	26.8	31.2	22.4	81	N	.7	4.5	A.-Cu., Ci. E, NE	Cu.	-------	☾° a. ☋² p.
6	58.12	25.9	30.2	23	88.5	NW	.2	5.5	Ci.-S.	Cu.-N., Cu. E, ENE	17.8	d a. p. ⊤ ☋ p.
7	57.38	26.4	30.8	21.8	82.7	NW quad.	.5	6	A.-Cu. E	Cu.-N. ENE	3	☊ a. d ☋ p.
8	57.37	26.2	29.6	23.2	84.3	NE	.2	8.2	A.-Cu. E	Cu.-N. ENE	1.3	d a. ⊤ ☋ d° p.
9	57.62	25.5	29.5	21.6	87.5	N	.5	9.2	Ci.-S.	Cu.-N. S	-------	⌐☓ p.
10	58.42	25.9	30.8	22.6	85.8	N, SW	.5	7.3	Ci., A.-Cu. E, NE	Cu.-N. E	.3	☊ a. ⊤ a. p. d ☋ p.
11	58.32	26.1	31.7	20.9	82.2	N	.3	4.2	Ci.	Cu. ENE	-------	☋ p.
12	57.73	26.7	32.3	21.8	83.5	Variable	.5	5.2	Ci., Ci.-S.	Cu., Cu.-N. E	8.4	☊ a. ⊤ ☋ ● ◠° p.
13	57.24	26.6	31	23	88	N	.3	6.2	Ci.-S., Ci.	Cu.-N. ENE	13.7	☊ a. ⌐☓ ● ☋ p.
14	57.79	26.9	30.5	23.8	83.2	N	.5	8	A.-Cu. ESE	Cu.-N.	25.1	☋ ⊤ p.
15	58.38	26.4	30.5	23.7	87.7	Variable	.7	9.5	Ci.-S. ESE	Cu.-N.	1	⌐☓ ● a. ☾ d ☋ p.
16	58.03	26	30.7	23.3	87.5	N	.2	8.8	Ci.-S.	Cu.-N. WNW	22.1	☋ ☾ a. p. ⌐☓ ● p.
17	57.62	26.2	29.7	22.8	86.5	Variable	.3	10	Ci.-S.	Cu.-N. WNW	18.5	≡ a. d p.
18	57.12	24.2	28.1	22.6	95.8	NE quad.	.3	10	Ci.-S.	Cu.-N. SSW	85.1	◠ a. d a. p. ●² p.
19	56.49	26.7	29.4	22.8	82.7	SE quad.	1.3	10	Ci.-S.	Cu.-N. SSW	8.4	⌐☓ ● p.
20	57.23	26.6	29.8	23.1	82.2	SSE	[a]2.2	10	Ci.-S.	Cu.-N. SW quad.	3.1	p p.
21	57.86	27	30.2	22	76.5	SE quad.	1.2	8.8	A.-Cu. SE, SbyW	Cu.-N. SW, WSW	16.5	⌐☓ ● p.
22	57.81	26.4	30.1	22	81.3	E quad.	.3	10	Ci.-S.	Cu.-N. NW	-------	
23	57.48	27.2	31.1	22.6	81.3	SE quad.	.7	9	A.-Cu. ENE	Cu. WNW	19.3	⌐☓ ● d p.
24	57.89	26.4	30.8	21.9	80.5	SE quad.	.5	8.2	A.-Cu. NW	Cu. NW	-------	☋ ☤ p.
25	58.28	26.8	31.9	22.7	79.3	Variable	.3	8.8	Ci.-S. E	Cu., S.-Cu.	-------	☾° ☋ a. p. ⊤ p.
26	57.75	25.4	30.2	23	90.8	N	.2	9	A.-Cu. E	Cu.-N. NE	24.8	d a. p. ● ⊤ ☋ p.
27	56.05	25.8	29.7	22.9	86	Variable	.3	10	Ci.-S.	Cu.-N. E quad.	60.5	d a. p. ⌐☓ ●² p.
28	56.66	25.9	29.3	22.8	87.7	E quad.	.7	10	Ci.-S.	Cu.-N. SW	9.6	⌐☓ a. d a. p. ☤ p.
29	58.11	27	30.1	24.6	83	SE quad.	1	9.7	Ci.-S.	Cu.-N. S	6.4	⌐☓ ● p.
30	58.49	26	30.7	22.9	86.3	Variable	.8	8.8	Ci.-S.	Cu.-N. S	5.3	☋ ⌐☓ ● d p.
31	58.12	25.9	30.7	22.8	81.5	S quad.	1.3	9	A.-Cu. NW quad.	Cu.-N. W	.5	☤² a. ⌐☓ p ☋ p.
Mean	757.85	26.3	30.4	22.7	84.6		.6	8.4				
Total											380.9	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 3.4 meters; gravity correction not applied, —1.82 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.19	28.4	32.4	25	80.2	S quad.	0.8	8.2	Ci. SW	Cu. E	-------	☤² a. ☾² a. p.
2	58.17	27	30.4	25.4	85.3	S	.7	8.5	Ci.	Cu.-N. E	3.3	☋° a. ● p.
3	58.66	27.2	31.8	24	83.2	E	.7	8.5	Ci.-Cu., A.-S	Cu.-N. ENE	1.6	d a. ●° a. p.
4	59.52	26.9	31	24	83.8	Variable	.3	7.8	Ci.-S. SW	Cu.-N. ESE	-------	☋ p.
5	58.91	27.7	33.2	24	80.5	ESE	.5	7.7	Ci.-S. SW	Cu.-N. ENE	7.6	☾² a. ● ⊤ ☋ p.
6	58.	27.8	32.3	24.6	81.3	Variable	.3	6.7	Ci.-S. SSW	Cu. ENE	-------	d² ⊤ p.
7	57.47	27.4	33	24.8	84.5	Variable	.5	7	Ci. SW	Cu. ENE	4.9	● p.
8	57.29	27.1	32.2	23.3	83.2	ESE	1	7.2	Ci.-Cu. WSW	Cu.-N., Cu. ENE	5.1	●° a.
9	57.25	26.3	30.8	24	87.3	SSE	.8	7.7	Ci.	Cu.-N. SE	1.3	● d a.
10	58.31	27.1	32.5	24.5	83.5	E, ENE	.3	6.5	Ci. WbyN	Cu., Cu.-N SE	.5	☾² a. ●° ☋ p.
11	58.16	28.4	33	24.6	80.3	SE quad.	.8	3.5	Ci.	Cu. E	-------	☊² a.
12	57.60	28.5	35.4	24.5	80.3	NW quad.	1	4.3	Ci.-S.	Cu. ENE	-------	☊² a. ⊤ p.
13	57.27	29	34.3	25.5	77.2	SE quad.	.8	6.2	Ci.-S. SW	Cu. E	4.3	☊² a.
14	57.76	27.9	31.8	25	83	Variable	.3	7.5	Ci. SW	Cu.-N. E	14.3	● d a.
15	58.16	27.3	32	24	83.3	SE	.7	8.8	Ci. SW	N. ESE, E	2.1	● a. ●° ⊤ ☋ p.
16	57.76	26.6	32.4	24	85.3	WNW, NW	.8	7.7	Ci.-S. SW	Cu.-N. ESE	5.8	☋ a. ● ⌐☓ p.
17	57.24	26.3	31.4	23.8	88.7	N	.2	8.2	Ci. SE	Cu.-N. N, NW	6.3	☾² a. ●° p.
18	56.64	26.3	32	24	88.5	Variable	.5	8.8	Ci. W	N., Cu.-N. W	30.2	● a. p.
19	55.86	26.9	31.5	24	84.8	SSE	.8	8.8	Ci. NE	Cu.-N. SSW, S	4.6	☾² a. p. ● p.
20	56.80	26.8	32.3	24	81.2	S quad.	1.2	9	Ci. NE, NNE	Cu. W	4.6	● ☾² a. p. ⊤ p.
21	57.24	27.6	32.7	22.6	74.5	SW	.8	8.2	Ci.-Cu. NE	Cu. WSW, SW	15.7	● d ☌°° p.
22	57.36	26.9	31.5	22.6	84.2	NW quad.	.5	8.8	Ci.	Cu.-N. NW	-------	d a.
23	57.04	26.8	32.7	22	85.3	Variable	1.2	8.3	Ci.-Cu. E	Cu.-N. NW	61.5	●² d ☌°° ⌐☓² p.
24	57.43	26.9	32.5	22.8	79.5	S	.5	8.3	Ci.-Cu. E	Cu.-N. NW	-------	☾° a. ☋ a. p. ☾² p.
25	58.08	27.6	33	24	78.3	NW quad.	.8	8	Ci. E	Cu. W	1.3	☋ ☾² a. p. ● d p.
26	57.45	26	31.8	24	88.3	NW quad.	.8	8.2	Ci.-S. E	Cu.-N. NW	12.1	● ⌐☓ ◠ p.
27	55.72	27.2	30.5	24.2	83.7	Variable	.5	8.3	Ci. S	Cu.-N. NE, N	.5	☾² a. p. ●° p.
28	56.13	26.7	31.5	24.2	85.2	S quad.	.3	8.5	Ci.-Cu. E	Cu. SW	2.8	● d² ☋ p.
29	57.67	26.9	32.2	24.2	82.5	Variable	.8	8.8	Ci.	Cu.-N. SW	-------	☾² a. p. d p.
30	57.94	27.5	33	23.4	82.3	Variable	.5	8	Ci. ESE	Cu. SW	9.9	☾² a. p. ● ☌°° ☋ p.
31	57.68	26.3	30.5	23.6	85.8	Variable	.5	9.2	Ci.-S., Ci.-Cu., E, ESE	Cu.-N. W	22.8	☋ d a. p. ● ⌐☓ p.
Mean	757.57	27.2	32.2	24	83.1		.7	7.8				
Total											223.1	

[a] Deduced from five observations.

Meteorological data for first and second class stations—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.62	28.4	33.4	25	82	N, NE	0.3	7	Ci., Ci.-S.	Cu. NE, SE	6.6	☉ ○ ☇ ⊤ ● p.
2	57.91	25.9	30.2	24.8	95.5	SW	.3	9.3	Ci.-S.	N. SE	12.2	⊤ ● a. ●° d° p.
3	58.29	26.3	32.3	23.5	89.2	Variable	.7	8.8	Ci.-S.	Cu. NW	1.1	●° ⌒ p.
4	59.26	25.9	32.5	23.7	90.8	Variable	.5	9.2	Ci.-S.	N.	23.7	⌈⊼ ● ☇° p.
5	58.82	26.4	31.9	23.7	90.2	Variable	.5	6.7	Ci.	Cu. NE	1.8	d ☇ a. p. ⊤° p.
6	57.97	27.1	32.4	23.1	87.2	N	.3	.7	Ci., Ci.-S.	N. N	1.1	●° a. ⊤° ☇ ⌈⊼ d° p.
7	56.94	27.5	33.2	24	85.2	NE quad.	.5	8.2	Ci.-S.	N., Cu. E, N	37.3	d ⊕ ○ a. ☇ a. p. ●
8	57.13	25.7	30.9	23.3	91.8	N, SW	.3	9	Ci.-S.	N. E, N	46.1	● ☇ ⊕ ○ a. ●² p.
9	57.28	25	30.5	22.6	92.5	Variable	.5	9.3	Ci.-S.	N., Cu. SE	74.5	d ⊕ ○ a. ●² ⌈⊼ p.
10	57.90	25.5	32.3	22.4	90.5	S quad.	.7	9.2	Ci.-S.	Cu. SE, S	7.9	●° a. p. ⌈⊼ p p.
11	58.09	26.8	32.2	23.1	89.5	SW	.7	6.8	Ci.-S.	Cu. NE	3.3	●° a. p. ☇ p.
12	57.66	27.5	32.8	24.6	86	NE	.7	6.5	Ci.	N., Cu. NE	35.3	●° a. p. ☇ p.
13	57.11	27.3	32.5	23.7	88	Variable	.5	8.7	Ci.-S.	N., Cu. NE	8.4	●² p. ⌈⊼² a. ⌈⊼ p.
14	57.50	26.1	28.3	24.7	96	NW	.2	9.5	Ci.-S.	N. N quad.	8.3	⌈⊼° a. ●° ☇ a. p.
15	57.90	26.4	31.4	24.5	92	SE	.2	8.3	Ci.-S.	N. SE	4.5	●° a. p a. p. ⊤° ☇ p.
16	57.98	26.6	30.8	24.4	90.5	NW	.2	8.5	Ci.-S.	N. NW	2.1	●° a. ☇ p.
17	57.24	26.3	30.8	24.4	91.3	S	.5	9.2	Ci.-S.	N. W, NW	5.6	●ᶜ a. p a. p. ☇ p.
18	56.30	25.8	29.8	23.9	90.8	S	.3	9.3	Ci.-S.	N. NW	2.6	●° ☋ p.
19	55.64	25.9	31.2	23.6	91	Variable	.5	9	Ci.-S.	N. S	13.8	●° a. ● p.
20	55.86	26.9	32.8	23.5	81.5	S	1.8	9.3	Ci.-S.	N. SW	-------	
21	56.46	27.4	33.4	23.7	77.8	SW	1	8.3	Ci.-S.	N. SW	2.8	☇ ☋° p p.
22	57.29	26.3	32.8	23.1	84.3	S quad.	1.3	9.5	Ci.-S.	N. SW	10.2	⊤ ● p.
23	56.74	26.9	33.1	23.5	83.8	S	.7	8.2	Ci.-S.	N. SW, SE	-------	⊕ ○ a. ⌈⊼ ☋ p.
24	57.37	27.3	33	22.6	81	NNW, NW	.3	7	Ci.	N. SW	-------	☋ ⌈⊼ p.
25	57.89	28.2	34.2	22.9	74.3	N	.5	8.2	Ci.-S.	Cu.	-------	☇ ☋ p.
26	57.66	26.9	32.7	23	84.7	N	.5	8.8	Ci.-S.	N. NW	25.4	●° a. ●² ⌈⊼ p.
27	55.82	26.3	31.9	23.8	90.3	NW	.7	8.7	Ci.-S.	N. N	12.4	⊤° ● ☇ p.
28	56.10?	25.4	31.2	23.2	92.3	SSW	.5	9.7	Ci.-S.	N. SW	8.9	●° a. p. ⌈⊼ d° p.
29	57.51	25.1	30.1	23.3	92.8	SSW	.2	9.7	Ci.-S.	N. SW	13.3	d² a. ● ⌈⊼ p.
30	57.79	25.2	32.8	20.9	91	S quad.	.5	9.3	Ci.-S.	N. SW	30.9	d° a. ● ⌈⊼ ⊤° p.
31	57.26	24.9	32.2	22.6	90.2	S quad.	.7	9.2	Ci.-S.	N. SW, W	1.8	♌ a. ●° d° ⊤ p.
Mean	757.36	26.4	31.9	23.5	88.2	-------	.6	8.6	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	401.9	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.80 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.11	27.6	32.3	24	83	Variable	0.7	7.3	Ci. SE	N. SE	3.3	○° a. ⌈⊼ d° ☇ p.
2	57.92	26.8	30.7	23.8	85.3	Variable	.7	9.3	Ci.-S. SE	S.-Cu. SSE	2	d p.
3	58.44	26.5	31.3	23.9	86.5	Variable	.7	8.8	A.-Cu. E	S.-Cu.	11.9	d a. p. ⊤ ●° p.
4	59.48	26.6	30.3	23	85	N	.2	7.5	A.-Cu. SE	S.-Cu.	-------	☇ p.
5	59.05	26.7	31.7	23.3	83.5	N quad.	.8	6.3	Ci. N, NW	Cu.-N. ENE	3.3	●° ⊤ ☇° p.
6	58.01	26.4	32.6	23.3	86.3	N	1	5.2	Ci. N	Cu. ENE	21.3	d° a. ⊤ ⌈⊼ ● ☇ p.
7	57.45	26.1	31.7	22.8	87.3	N quad.	.7	5.8	Ci.-S.	Cu.	.3	⊤ a. ☇ p.
8	57.37	25.9	31.4	23.4	87.8	N quad.	.7	7	A.-Cu. E	S.-Cu. SE	1	d a. p.
9	57.25	26.2	31.3	22.7	86.2	N	.8	7.2	Ci.-S.	Variable	1	⊤° d° ☇ p.
10	58.21	26.4	31.8	23.4	88.7	N	.7	6.8	Ci.-S.	S.-Cu. E	13.5	p² ⊤ ⌈⊼ ☇ p.
11	58.21	26.7	33.1	22.7	84	N	.8	2.3	Ci.	S.-Cu. NE	-------	♌ a. ⊤ d p.
12	57.68	26.6	32.6	22.4	86.8	Variable	.5	4.7	Ci.-S.	S.-Cu. NE	.5	♌ a. ⌈⊼ d° ☇ p.
13	57.36	26	31.9	23.6	89.8	N quad.	.7	5.7	Ci.-S.	S.-Cu. ENE	2.5	⊤ d ☇ p.
14	57.75	26.6	31.6	23.6	90	N quad.	.7	6.3	Ci.-S.	N. E	3.6	●° ⊤ ☇° p.
15	58.10	26.8	30.7	23.8	87.3	Variable	1.3	7.8	Ci.-S.	Cu.-N.	12.5	⌈⊼ ⊤ ●° ☇° p.
16	57.90	25.4	31.1	22.8	90.5	N	.7	8	Ci. SSE	S.-Cu.	4.4	d ⊤ p.
17	57.12	26.4	30	23.8	87.8	WSW	.5	8.8	A.-Cu. SSW	S.-Cu. W quad.	26.9	d a. ● p.
18	56.43	26.6	30.6	24.1	88	SSW	1.3	9.3	A.-Cu.	N., S.-Cu. SW	1.6	● d a.
19	55.75	27.8	31.3	24.8	80.2	SSW	1.5	9.5	A.-Cu.	S.-Cu. SW	1.8	☇ p p.
20	56.32	28.4	30.4	26.7	72.5	SSW	3.5	9.7	Ci.-S.	S.-Cu. SW	.8	p p.
21	57.05	27.8	31.9	24.2	76.2	SSW	2.5	8.3	A.-Cu. SE	S.-Cu. SW	2.6	p ⊿° p.
22	57.33	28.6	32.6	24.3	78.5	SW	1.7	8.5	A.-Cu. SSW, E	S.-Cu. SW	-------	
23	56.81	28.3	33.2	24.3	79.2	SW quad.	.7	7.3	A.-Cu. SE	S.-Cu. SW, WSW	-------	
24	57.40	28.8	33	26.4	75.3	SW	1.2	7.3	Ci.-S.	S.-Cu. WSW, W	1.3	
25	58.13	28	33.8	24.3	81.5	W quad.	.5	8.8	A.-Cu. SE	S.-Cu. W	2	d° a. p. ⌈⊼° ⌒ p.
26	57.58	26	30.5	23.6	90.5	N quad.	.7	8.3	Ci.-S.	S.-Cu. N	21.9	● a. p. ⊤ p.
27	55.76	25.4	29.6	23.4	92.3	S, NW	.3	9.7	Ci.-S.	S.-Cu. NE	34	● a. p. ⌣ p.
28	56.04	26.7	29.9	24.2	87.7	SW	1.2	9.7	A.-Cu.	S.-Cu. SW	9.1	● d° a. p p.
29	57.37	27.8	30.6	25.3	79	SW	2.2	9.2	Ci.-S.	S.-Cu. SW	3.6	●° p.
30	57.85	28.2	31.7	25.7	78.3	SW quad.	1.2	8.8	Ci.-S.	S.-Cu. SW	5.8	● p.
31	57.50	27.6	30.4	24.9	79	SW	1.2	9.3	A.-Cu. W	S.-Cu. SW	.3	⌣ a. d p.
Mean	757.51	27	31.5	24	84.3	-------	1	7.7	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	192.8	

Meteorological data for first and second class stations—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 5.5 meters; gravity correction not applied—1.77 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.84	30.1	35.4	24.4	73.3	NE	0.8	2.7	Ci., Ci-S.	Cu. E	------	◟° p.
2	57.75	28.5	34.1	23.5	80	NE	.7	5	Ci. NE	Cu.-N. SE	1	●° p.
3	58.33	27.6	34.9	24	81.5	Variable	.5	6.2	Ci.-S.	Cu.	------	●° a. ◟ p.
4	59.33	27.5	32.5	22.2	80.3	S, ESE	.3	5.8	Ci. ENE	Cu.-N. S	------	◟ p.
5	58.91	29	35.8	22.5	74.3	NE quad.	.7	2.2	Ci.-S.	Cu. ESE, E	------	◟ p.
6	58.05	29	35.4	23	76.8	ENE	.7	2.7	Ci.	Cu. ESE	.5	d° a. ◟ p.
7	57.31	28.2	34.9	22.9	79.7	NE	.5	5.3	Ci.-S.	Cu. E	12.7	●° a. p., ◟ p.
8	57.22	26.1	33.5	23.1	88.5	NE, NNE	.3	8	Ci.-S.	Cu. E	10.7	● a. p.
9	57.26	26.7	32.9	22.6	86.2	Calm	0	6.2	Ci.-S. E	Cu. E, SE	3.8	● ⌒ ◟ p.
10	58.26	26.9	32.7	22.5	85.2	SE, ENE	.3	7.7	Ci.-S. NE	Cu. SSE	4.3	◠ a. ● ⌒° ◟ p.
11	58.32	28.4	35.3	22.6	81.2	NE	.5	2.5	Ci. NE	Cu. E	------	◟ p.
12	57.80	29.2	36	23.4	77.8	NNE, NE	.7	3.3	Ci., Ci.-S. N	Cu. E	4.3	◟ p.
13	57.42	28.6	33.6	24.4	82.5	NE	1	4.3	Ci. N	Cu. E, NE	9.9	● ⌒° a. ◟ d² p.
14	57.90	26.8	31.2	22.5	88.2	WNW	.2	9.3	Ci.-S. N	N. E, ESE	17	⌒ a. ● a. p.
15	58.04	27.7	33.1	23	83.8	NE, ENE	.3	6.3	Ci.-S., A.-Cu. ENE	Cu. E	5.8	●a. ◟ p.
16	57.92	25.8	30.5	22.4	88.8	W	.2	7.7	Ci.-S.	Cu. NE	11	⌒° a. ● a. p. ◟ p.
17	56.98	25.8	28.5	22.3	89.3	Variable	.8	8.8	Ci.-S.	N., Cu. ENE, NNE	6.8	● d a. p.
18	55.91	25.9	30.3	22.5	89.2	S	.5	8.2	Ci.-S.	Fr.-N. S, SSW	10.4	● a. p.
19	55.22	26.8	31.4	23.1	86	SSW	.8	6	Ci.-S.	N. SW	8.6	● a. ◟ p.
20	55.59	25.9	29.7	23.1	90.5	SW	1.3	9.7	Ci.-S.	Fr.-N. SW	7.2	● a, p.
21	56.06	27.2	31.5	23	81.2	SW	1.8	9	Ci.-S.	Variable WSW	3.8	●° d a. ● p.
22	56.78	27.4	32.7	22.2	79.2	SW	1.5	7.5	Ci.-S.	Cu. SW	------	● a. ☋ p.
23	56.62	27.8	33.1	24	77	SW	1.2	7.7	Ci.-S.	Cu. WSW	3.8	◟ ● p.
24	57.	27.8	32.9	22.5	74.3	SW	1.5	4.3	Ci.	Cu. WSW, W	------	◟ p.
25	57.69	28.5	35.1	23	75.3	W, SW	.7	7.2	Ci.-S.	Cu. WSW	------	◟ ☾ p.
26	57.58	27.7	33.4	23.6	81.5	Variable	.7	7	Ci.-S.	Cu. NNE	29.5	◟ ● p.
27	55.84	25.3	29.7	21.7	91.3	NE quad.	.7	9.7	Ci.-S.	N. ENE	52	●² a. p
28	55.69	26	30.5	22	85.8	W, WSW	.3	9.2	Ci.-S.	Cu.-N., Cu. SW, WSW	15.7	● d a. p.
29	57.10	25.5	30.1	22.9	89.3	SSW	.8	9.8	Ci.-S.	Fr.-N. SW	3	● a. p. d p.
30	57.41	26.3	31.3	22.5	86.5	SW	.3	9.2	Ci.-S.	Cu. SW	16.8	● d p.
31	56.88	25.9	30	21.6	85.7	SW	1.2	9.7	Ci.-S.	Fr.-Cu., Cu. WSW, SW	17.3	● d p.
Mean	757.29	27.3	32.6	22.9	82.9	------	.7	6.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	255.9	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.74 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.65	28.1	33.7	24.5	81.8	SW	0.8	7.3	Ci. NE	S.-Cu. SE	0.3	☋° a. p. d² ◜◝ ◟ p.
2	57.61	27.8	31.7	24.8	85.3	Variable	.8	6.8	Ci.-S. ENE	S.-Cu. E, SE	2.3	●° a. p. ◜◝ ◠° p.
3	57.80	27.4	32.4	24.4	85.8	SW	.7	9.8	A.-Cu. E	S.-Cu. SE	------	d° ◜◝ ◟ p.
4	58.99	27.4	32.4	24.1	85	SW	1	6.7	A.-Cu. SE	Cu. ESE, SE	3.5	☋° Ω² ●° a. ◜◝ d° p.
5	58.74	27.1	32.4	23.1	87.5	SW	.7	6.7	Ci.-S. E	S.-Cu. SE	8.9	●° ◜◝ a. ● ◟ p.
6	58.04	27.5	32.4	23.7	83.7	SW	.8	3.5	Ci. E	Cu., Cu.-N. SE, E	------	Ω² ≡² a. ◟ p.
7	57.35	26.7	32.4	23.8	86.7	SW	1.2	5.5	Ci.	Cu.-N. SE	7.6	☋° a. ◜◝ ● ◟ d² p.
8	57.23	26.3	28.7	23.5	88.7	N quad.	1.5	10	Ci.-S.	S.-Cu. NE	25.4	● a. d° a. p.
9	57.19	25.8	30.8	23.7	91.2	NE, SW	.3	9.7	Ci.-S. ENE	S.-Cu. E	4.9	● ◠² a. ◜◝ ●° p.
10	57.99	25.9	30.5	23.2	90.8	SW	1	9.8	Ci.-S. SE	S.-Cu. SE, SSE	24.3	● a. p. ◜◝ ◟ p.
11	58.26	26.3	31	23	89.8	SW	1.3	6.8	Ci. E	S.-Cu. E	18.3	◟ d° a. ◜◝ ● d p.
12	57.82	28	32.3	23.7	82	Variable	1.8	6.2	Ci.	S.-Cu. NE, ENE	1.5	◜◝° ◟ p.
13	57.50	27.7	30.3	25.5	86.2	N	2	8.5	Ci.	S.-Cu. NE	23.9	◠ a. ◜◝ ● ◟ a. p.
14	58.03	26.9	30.8	25.7	86.8	N quad.	1.3	9.5	Ci.	S.-Cu. NE	------	d° a. ◜◝ a. p. ◟ p.
15	58.08	26.8	30.3	23.5	86.8	SW, N	.8	7.5	Ci. ENE	Cu. E	21.6	◟ ≡° ◯° a. ◜◝ ● p.
16	57.97	26.1	29.8	23.9	91.5	SW	.7	8.5	A.-Cu. E	S.-Cu. E	8.4	● d° a. ◜◝ a. p.
17	57.64	25.7	28.2	24.2	91	SW	1.3	9.7	Ci.-Cu., Ci. E, SE	S.-Cu. NE, E	43.2	≡° a. ● d° a. p.
18	55.76	25.8	28	24.2	91	NW quad.	2	9.8	Ci.-S.	N. NE	68.1	● a. p. ◜◝ ◟ p.
19	54.65	25.6	29.9	23.8	93	SW	.3	9.7	Ci.-S.	S.-Cu. NW	17.9	◠° ≡ a. ● a. p. ◟
20	54.30	26.8	32.5	23.5	85.2	SW	1	9.5	Ci.-S. NE	S.-Cu. S, SSW	36.8	d° a. ◜◝ ● d² ◟ p.
21	55.15	26.6	30	24.4	82.7	SW	.8	9.8	Ci.-S.	S.-Cu. S	------	● ◠° a. d° p,
22	55.72	27.2	31.1	24.2	77.7	SW quad.	1	10	A.-Cu. S	S.-Cu. SW	1.5	d² ◯° a. p.
23	55.93	26.3	31.8	23.7	85.2	SW quad.	1.2	9.8	A.-Cu. WSW, N	S.-Cu. SW	10.1	d² ● ◠ p.
24	56.52	26.4	32.4	22.6	85.5	SW	.8	7.5	A.-Cu. SW	Cu. W	1.5	⌒ ●° d° ◟ p.
25	57.35	27.3	33.4	23.9	81.5	SW	1.2	6.8	A.-Cu. W	Cu. W	4.1	d° a. ◜◝ ● p.
26	57.66	26.5	33.1	23.5	85.7	SW	1	8.2	A.-Cu. E quad.	Cu.-N. SE	13.3	◜◝ ● ◟ p.
27	56.34	25.7	30.5	23.5	89.2	NE quad.	1.5	9.8	A.-Cu. E	S.-Cu. E	7.5	◜◝ ● p.
28	55.54	25.8	27.8	24.2	90.2	NE	.8	10	Ci.-S.	N. NE	6.6	●° d² a. ● d p.
29	56.31	26.2	30	24	83.8	SW	1.3	10	Ci.-S.	S.-Cu. SW	13	◯° d° a. d² ●° p.
30	56.90	25.9	27.4	24.6	82	SW	1	10	Ci.-S.	S.-Cu. W	.3	d° a. p.
31	55.95	26	29.8	23.7	83.7	SW	1	10	Ci.-S.	S.-Cu., Fr.-N. W	2.1	◯° a. d° ●° p.
Mean	757.03	26.6	30.9	23.9	86.4	------	1.1	8.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	376.9	

Meteorological data for first and second class stations—Continued.

PARACALE.

[ϕ=14° 17′ N; λ=122° 47′ E; barometer above sea, 5.3 meters; gravity correction not applied,—1.73 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.80	28.2	33.8	23.5	83.2	NE, SW	0.5	7.2	Ci., Ci.-S.	Cu. S	46.2	Ω² a. d ● ⌐⌅ ↘ p.
2	57.61	27.3	33.8	23.4	86.3	Variable	.7	7.7	Ci.-S.	Cu. ESE, SE	6.3	↘ ⊕ a. ⊤° ● ↘° p.
3	58.10	27.5	32.6	24.4	87	NE	.2	8.3	Ci.-S.	Cu. S	6.1	● ⊤ a. p. ↘ p.
4	59.04	27.7	33.8	24	85.2	NE	.7	4.2	Ci.	Cu. E	2.6	Ω² a. ⊤ ↘ d ● p.
5	58.86	27	33.3	23.7	85.2	NE, ESE	.3	4.2	Ci., Ci.-S.	Cu. ESE	33.8	≡ a. ● ↘ p.
6	58.26	27.8	33.3	22.9	82.7	Variable	.7	2.7	Ci.	Cu. E	.5	Ω² a. ●° ↘ p.
7	57.29	28.1	33.8	23.8	82.5	NE, ENE	.5	3.5	Ci.	Cu. E	44.7	Ω a. p. ↘ p.
8	57.37	26.2	31.5	23.3	91.2	E	.5	10	Ci.-S.	S.-Cu., Cu. E	16	●² a. ● a. p. d p.
9	57.29	26.5	32.3	24	89	WNW	.2	10	Ci.-S.	S.-Cu. NW	5.8	⊤ ↘ ● d p.
10	58.31	26.5	32.7	23.6	88.5	NE, ENE	.3	10	Ci.-S.	Cu., S.-Cu. E, ENE	2.3	Ω² a. ⌐ ↘² ↘ ●° d p.
11	58.42	27.5	34.3	23.5	85.8	NE, WSW	.3	8.3	Ci.-S.	Cu. E	.5	Ω² a. p. ⊤ d ●° p.
12	58.08	28	33.4	23.8	84	E	.5	5.2	Ci.	Cu. E	19	Ω² a. ● ↘ p.
13	57.64	28.2	33.8	24	85.8	ENE	1	7.2	Ci.	Cu. E	10.7	● a. p. ⊤ ↘ p.
14	58.10	26.2	31.1	23.4	92.5	SW	.7	8.3	Ci.-S.	Cu., S.-Cu. E	3.6	Ω ◠ ↘ a. ● a. p.
15	58.15	27.1	31.8	22.9	86.8	SW, NE	.7	10	Ci.-S.	Cu. E	3	≡ ⊕° a. ●° ⊤ ↘ p.
16	58.24	26	31.1	23.8	92	E, SW	.3	9	Ci.-S.	Cu. E	9.7	● a. p. Ω² ≡° ↘ p.
17	57.75	24.9	29.3	23.1	94.5	SW	.2	9.3	Ci.-S.	Cu. ENE	70.4	● a. ●² ⊤ ↘ p.
18	55.73	27.7	32.3	24	84.7	NE	1.2	10	Ci.-S.	Cu., S.-Cu. ENE	6.9	● a. p. ⊤ ↘ p.
19	54.83	26.3	32.8	23	90.5	NE, SW	.3	9.8	Ci.-S.	Cu. S	8.9	Ω ≡° a. ● ↘° p.
20	54.39	27.6	33.3	23.8	81.3	SW	1	7.8	Ci.-S.	Cu. SSW	------	Ω² a.
21	55	28.1	32.5	26	79.7	SW	1.5	10	Ci.-S.	Cu. S	------	d° p.
22	55.79	27.9	32.5	25.1	81	SW	.8	10	Ci.-S.	Cu. S	------	
23	56.01	28	33	24.6	78.8	SW	1.2	10	Ci.-S.	Cu. S	------	
24	56.57	27	34.8	23.5	84	SW	.7	5.8	Ci., Ci.-S.	Cu., S.-Cu. SW	4.9	Ω a. ⌐⌅ ↘ p.
25	57.53	27	34.6	24	87.7	SW	.5	8.2	Ci., Ci.-S.	Cu., S.-Cu. SW	6.1	● ⊤ ↘ p.
26	57.65	27.6	33.8	23.5	84.5	SW, ENE	.3	5	Ci.	Cu. S	15.2	↘ ⌐⌅ ●° p.
27	56.47	25.8	30.8	23.3	90.2	E, NE	.5	10	Ci.-S.	Cu. E	49.3	↘ ⊤ a. ● d a. p.
28	55.42	25.6	30	23.5	93.2	SW	.7	10	Ci.-S.	S.-Cu. S, SW	13.8	●° a. p. d ● p.
29	56.16	26.4	31.8	24.2	89	SW	.8	10	Ci.-S.	S.-Cu. SW	10.4	Ω² d° a. ● p.
30	56.64	26.4	30.8	24	84.7	SW	1.3	10	Ci.-S.	Cu. W	------	Ω a. d° p.
31	55.94	27.2	33	25.1	82.8	SW	1.2	10	Ci.-S.	Cu. SW	12.7	♆ a. ● Ω p.
Mean	757.11	27.1	32.6	23.8	86.3		.7	8.1				
Total											409.4	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied—1.69 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.82	28.1	35.3	23.4	81.5	S quad.	1.2	7.2	Ci.-S., Ci. E, NE	Cu.-N. SW	0.8	◡° Ω ≡° a. d ⊤ ↘ p.
2	57.58	27.9	35.5	23.1	82.3	Variable	.8	7.2	Ci.-S.	Cu., Cu.-N. SE	27.9	● ⌐⌅° d ◠ p.
3	57.94	28	34.7	23.3	84.7	SE quad.	1.2	5.2	Ci. NE	Cu., Cu.-N. SSE	3.6	↘ p.
4	59.09	27.1	32.6	24.4	89	S	.7	7.8	Ci.-S.	Cu. SE	------	● a.
5	58.76	27.8	34	24	85	Variable	.7	3.7	A.-Cu.	Cu.-N. SE, ESE	5.3	● ↘ ⊤° p.
6	58.11	28.6	35.4	23.4	80.7	Variable	.5	3.3	Ci. ENE	Cu.-N. SE	------	Ω° a. ↘ p.
7	57.60	27.4	34.7	21.7	82.3	Variable	.8	5.3	Ci.-S. ENE	Cu., Cu.-N. SE	15	Ω° a. ⊤ ● ↘² p p.
8	57.46	26.4	31.7	22	83.8	Variable	.8	7.5	Ci.-S. ENE	Cu.	5.3	≡° a.
9	57.44	25.8	29.9	23.2	90.8	NE, N	.3	9.8	Ci.-S.	Cu.-N.	6.1	●° a. d ↘ p.
10	57.93	27.1	32.7	24.1	88.2	E	.5	9.3	Ci.-S. NE	Cu.-N. SE	4.6	↘ d° a. ⌐⌅ ●° ↘ p.
11	58.47	27.2	34	23.7	88.2	NE, SSE	.7	8	A.-Cu. SE	Cu.-N. SE	.8	↘ a. d ↘² p.
12	58.10	28.1	35	22.9	80.2	NE quad.	.8	4.2	Ci., Ci.-S. NE	Cu.-N. E	------	Ω ≡° a. ⊤² ↘² p.
13	57.92	28	32.8	22.3	79.2	Variable	.7	4.8	Ci., Ci.-S.	Cu.-N.	5.1	Ω ≡° a. ↘ p.
14	58.33	26.4	33.4	23.1	87.2	NE	.5	9.2	Ci.-S. NE	Cu.-N.	33	d a. ●² ⌐⌅² ↘² p.
15	58.30	27.5	34.1	22.9	84.5	Variable	.8	7.3	A.-Cu. NE	Cu. E	4.6	↘ a. ⌐⌅² ●◡ ⊤ ↘² p.
16	58.36	26.4	33.7	23	86.8	Variable	.8	7.3	Ci.-S.	Cu.-N. E	1	↘ ≡° a. ⌐⌅ d p.
17	57.77	27	33	22.5	84	SW quad.	1.7	7.8	Ci.-S.	Cu. SW, S	------	Ω² ≡° a.
18	56.63	26.1	29.7	23.8	92.5	SE	1	9.7	Ci.-S.	N. E	3	d a. ⌐⌅ ● d° ↘ p.
19	54.79	26.9	32	23.9	89	S	1.5	8.5	Ci.-S.	Cu. SE quad.	4.5	◯ a. p. d° a. ♆ p.
20	54.48	27.3	33	24	88	S quad.	2	7.8	Ci.-S.	N., Cu. S	17.5	d a. p. ● p.
21	55.08	25.2	28.2	23.5	95.8	S, SSW	3	10	Ci.-S.	N. SW quad	18.3	● d a. p. ⊕° p.
22	55.84	25	29.2	23.1	95.2	SSW, SW	2.3	10	Ci.-S., A.-S.	N. SW	12.7	● a. d° ⊤ ↘ p.
23	56.12	25.3	28	23.4	96	SSW, SW	1.3	9.2	Ci.-S.	N. SW	10.2	d° a. ● a. p.
24	56.74	26	30.6	23	92.5	SW	1.7	8	Ci.-S., Ci.	Cu. SW	40.2	●² a. p. d° ⊤ p.
25	57.68	26.2	30.5	22.7	88.8	S	1.5	6.7	Ci.	Cu. S	2.3	d a. ● p.
26	57.98	26.9	32.8	22.4	85.8	S	1.7	6	A.-Cu. SE	Cu. S	3.8	Ω² a. ⌐⌅ ●° ♆ p.
27	56.90	26.4	28.9	24	90.5	NE quad.	.8	9.2	Ci.-S. SE	Cu. E, NE	17.5	⊤ a. ● a. p.
28	56.18	24.9	26.9	23.4	95	NNE	1.2	10	Ci.-S.	N. N	25.7	● a. ⊕ d p.
29	56.77	24.5	29.5	23	96.2	S	1.7	10	Ci.-S.	N. S, SW	11.4	≡ ⊕ a. ● a. p.
30	56.84	24.9	28.3	23	95	SW	2.2	9.8	Ci.-S.	N. SW	1.5	d° a. d² p.
31	56.02	23.9	24.5	22.7	97.5	SW	1.5	10	Ci.-S.	N. SSW, SW	58.4	●° a. ●² p.
Mean	757.26	26.6	31.8	23.2	88.3		1.2	7.7				
Tota											340.1	

Meteorological data for first and second class stations—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.09	28.6	36.2	23.9	85.3	SE quad.	1	7.3	A.-Cu.	Cu., S.-Cu. SE	2.5	☾ ⊤° p° ☋ ⌒ p.
2	56.72	28.6	36.6	23.9	82	SE	1.2	6.2	A.-Cu.	Cu., S.-Cu.	16.8	☋ a. p ☾ ⊤ ☋ p.
3	57.30	28.2	36.1	23.6	86.3	SE	.7	7	A.-Cu.	Cu., S.-Cu. SE	3.8	☋° a. p° ● ☾ ⊤ p.
4	58.02	28.7	35.2	24.4	84.8	SE	1.2	7.5	Ci., A.-Cu.	S.-Cu. SE	-------	● a. ☾ ⊤ p.
5	57.81	29.2	36.1	24.4	82	SE quad.	1.3	4.7	A.-Cu.	Cu., S.-Cu. SE	-------	☾ ⊤° p.
6	57.47	28.5	36.6	23.7	84.5	SE	1.2	5	Ci., Ci.-S.	Cu. SE	26.4	⌒ p ● ☾ ┬ p.
7	57.04	27.6	35.4	22.5	86.3	SE quad.	1.3	4.8	Ci.	Cu.	15	● a. p ☾ ⊤ p.
8	56.83	27.4	35	21.8	87.3	SE quad.	1.2	6.5	A.-Cu.	S.-Cu. SE	-------	☾° p.
9	56.68	26.8	31	24	90.7	S	1	6.7	A.-Cu.	S.-Cu. SE	-------	☋ ° a. d° p.
10	57.07	27.6	34.3	24.3	88.7	SE quad.	1	8.5	Ci.-S., A.-Cu.	S.-Cu. SE	.3	d° a. ☾ ⌈⌋ d° p.
11	57.67	28.1	35.1	23.8	86.2	SE	1.2	8.3	A.-Cu.	Cu.-N., S.-Cu.	.5	d° ☾ p.
12	57.46	27.8	36.3	22.8	82.5	SE	1	5.8	A.-Cu.	Cu., S.-Cu.	-------	☾ p.
13	57.13	28.6	35.8	23.6	80.2	Variable	.7	4.3	Ci.-S., A.-Cu.	S.-Cu.	-------	d° ☾ p.
14	57.37	28.4	35.4	24.1	80.2	SE	1.2	7.2	A.-Cu.	S.-Cu.	.3	☾° a. ☾ ⊤ d° p.
15	57.58	28	35.8	23.3	82	S quad.	1.3	8.2	A.-Cu.	Cu., S.-Cu.	57.4	☾ ⌈⌋ p² p.
16	57.69	26.2	34.9	22.7	89.5	SE quad.	1	9.3	A.-Cu.	Cu., N.	6.8	●° ◯ a. ☾ ⊤ p p.
17	57.15	26.7	35.4	22.5	86.7	SE quad.	.7	7.3	A.-Cu.	Cu. SE	27.4	☾ ⊤ p p.
18	56.12	27	32.2	23.7	88.7	NW, N	.5	9	A.-Cu.	S.-Cu. E	-------	d° ☾° p.
19	53.96	28	34.6	23.8	87.8	SE	.5	8.2	A.-Cu.	Cu. SE	-------	☾ ⊤° p.
20	53.39	28.1	35.3	24.5	85	E quad.	1.3	8.5	A.-Cu.	Cu., S.-Cu. SE	-------	☾° a. ☾ ⊤ d° p.
21	53.98	26.6	30.6	24.3	92.7	SE	1.7	9.8	-------	N. SE, SW	11	d° ☾° a. d p p.
22	54.87	25.7	29.5	23.9	94.2	SE, E	1.5	10	A.-Cu.	N. SE	9.7	●° a. ● d° ⊤° ☋ p.
23	55.21	26	30.3	23.5	92.5	SE	.8	9.8	A.-Cu.	N. SE, SW	2.6	d° p° p.
24	55.94	26.2	31.5	23.7	88.7	SE, E	1	10	A.-Cu.	S.-Cu., N. SW, SE	37.2	d° a. ⊤ p² p.
25	56.98	26.3	32.5	23.1	88.7	SE	1	9.5	A.-Cu.	S.-Cu. SW, SE	3.6	p p.
26	57.12	27.3	34.6	23.4	83.2	SE, S	1.3	5.8	Ci., A.-Cu.	Cu.-N., S.-Cu.	-------	⌒° ⊤° d° p.
27	56.14	27	31.4	23.6	87.5	SE	.5	7.8	A.-Cu.	S.-Cu. SE	-------	☋ ≡° ☾ p.
28	55.44	25.2	27.2	24	96	SE	.7	9.7	A.-Cu.	S.-Cu., N.	12.3	d ● a. p. ☋° p.
29	55.92	25.6	33.5	23.4	92.3	SE	1	10	A.-Cu.	N. SE	46.1	d° a. p° ● ⊤° p.
30	56.04	25.2	29.2	23.2	95	SE	1.2	10	A.-Cu.	N. SE	71.1	d ● a. p.
31	54.99	24.6	29.9	23.1	96.3	Variable	1.3	10	-------	N. SW	198.2	●² ⊤ a. p. ☾ p.
Mean	756.46	27.2	33.7	23.6	87.5	-------	1.0	7.8	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	549	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 9.7 meters; gravity correction not applied, —1.65 mm.]

	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.30	27.6	34.5	25.4	83.8	SE quad.	2.3	9.8	Ci.-S.	S.-Cu.	35.1	☊° a. d ● ⌈⌋° p.
2	56.83	28.5	33.5	25.4	83.5	S	2	10	Ci.-S.	Variable	3	d ● ⌈⌋ p.
3	57.34	28.1	33.2	25.2	83.7	S quad.	2.2	10	Ci.-S.	Cu. S	2.3	●° ⊤ d ☾ p.
4	58.11	28.7	32.9	25.5	83.2	S quad.	2.8	10	Ci.-S.	Cu. SbyW	.3	⌈⌋ d ⌒ p.
5	57.94	28.2	33.8	24.9	81.8	S quad.	3.2	10	Ci.-S., Ci.	S.-Cu.	-------	☊° a.
6	57.36?	27.8	33.5	24.4	83.7	S quad.	2.2	10	Ci.-S.	Variable	1.8	☊ a. ● ⊤ d p.
7	57.06	28	33	24.6	81.7	SSE, W	2.7	8.7	Ci.-S.	Cu., Cu.-N.	24.6	┬ ● ⌈⌋ ☾ p,
8	56.79	27.1	33.1	23.4	84.8	SSE	2	9.7	Ci.-S.	S.-Cu.	18.6	┬ ● ☾ p.
9	56.56	27.3	31.1	24.1	83.7	S quad.	2	10	Ci.-S.	S.-Cu., N.-cf.	-------	☾ p.
10	57.05	27.7	34	25.1	81.2	SE quad.	2.2	10	Ci.-S.	S.-Cu.	2.8	☊ ◯² a. ⌈⌋ ●° p.
11	57.69	27.2	33	24.8	86	SE quad.	2	10	Ci.-S.	S.-Cu.	6.4	┬ ● d p.
12	57.58	27.8	33.2	23.9	83.2	SE	2	10	Ci.-S.	Cu.-N.	2	┬ ●° ☾ p.
13	57.31	29	33.6	24.9	78.5	N	2.8	8.7	Ci.-S.	Cu.	-------	
14	57.36	28.8	33.9	23	79.5	SE quad.	2.7	10	Ci.-S.	Variable	41.7	☊ a. ⌈⌋ ● ☾ p.
15	57.55	28.3	33.4	24.4	81.2	S quad.	2.8	10	Ci.-S.	S.-Cu.	.3	☊ a. ☾ ◯² ┬ ●° p.
16	57.72	26.9	32.5	23.5	84.5	S	2.3	10	Ci.-S.	S.-Cu.	16.3	☾ ☊ a. ┬ ⌈⌋ ● p.
17	57.30	26.5	33.1	23.6	85.8	S	2.3	9.8	Ci.-S.	S.-Cu.	25.6	☊ a. ⌈⌋ ● ☾ p.
18	56.13	27.3	32.3	23.9	86.3	NW quad.	1.8	10	Ci.-S.	N.-cf.	1.3	d ●° p.
19	53.92	28.4	33.5	25.1	84.3	SSE	1.8	10	Ci.-S.	Cu., S.-Cu.	-------	d a. p. ◯² ⌈⌋ ☾ p.
20	53.29	27.7	33.5	25.2	84.2	SE quad.	3.3	10	Ci.-S.	S.-Cu.	1.3	◯² a. p. ⌈⌋ ●° p.
21	53.44	25.8	29.1	24	90.3	SE quad.	4.3	10	Ci.-S.	N.-cf.	34.9	d ↙° a. ● p.
22	54.27	24.9	27.7	24	95	SE	3.8	10	-------	N.	68.3	d p a. p. ●² p.
23	54.46	25.4	29.5	23.2	93.3	S	4.2	10	A.-Cu.	N.-cf.	83	p a. p. ● p.
24	55.75	24.6	27.9	22.9	94	S	3.5	10	-------	N., N.-cf.	12.6	● p a. p.
25	56.62	25.8	30.1	23	89.2	S quad.	3.5	10	Ci.-S.	N.-cf. SSW	1.6	p a. p. ☋° p.
26	56.85	27.1	31.6	23.9	83.7	S quad.	2.8	7.8	Ci.-S.	Cu. S	-------	d ⊤ ☋° p.
27	56.19	27	31.5	23.1	88	SE quad.	1.7	9.2	Ci.-S.	S.-Cu.	3.5	☊ a. ☾ ●° ⊤ ☋° p.
28	55.22	25.9	29.8	24	91.5	S quad.	2	10	Ci.-S.	S.-Cu.	3.1	● a. ●° p.
29	55.64	26.2	31	23.7	88.7	S	2.5	10	Ci.-S.	N.-cf.	13.9	p° a. p. ● p.
30	55.74	25 1	29	23.5	94.5	S	3.5	10	-------	N.-cf.	206.3	p a. p. ●² p.
31	54.35	25.4	29.6	23.4	92.8	SW	3.7	10	Ci.-S.	N.	118.3	●² ↙° a. p. ⌈⌋ p.
Mean	756.35	27.1	32	24.2	86	-------	2.7	9.8	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	728.9	

Meteorological data for first and second class stations—Continued.

BAGUIO.[a]

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1,512.5 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	636.06	19.4	24.3	16.2	84.2	SE quad.	1.5	7.1	Cl.	Cu. S quad.	0.8	☊ a. ⌐◪ ≡° ● p.
2	35.84	19.8	25.5	16.8	86.5	E quad.	2.2	9.3	Ci.-S. NE	Cu.	1.1	≡² ⌐◪ ●° p.
3	36.03	19.4	23.5	16.8	87.2	W quad.	1.3	9	Ci.-S. NE	Cu.	15.5	● ≡ p.
4	36.71	19.9	24.5	17.2	88.7	SE quad.	1.8	6.9	Ci.	Cu. E	2	d° ● ◠° p.
5	36.62	19.8	24.7	16.8	87.3	E	2	6.9	Ci.-S.	Cu. EbyN	.8	⊕ ●° ◠° ⌐◪ p.
6	36.18	19.5	24.5	16.5	87.7	E quad.	1.8	7.6	Ci.	S.-cf. SE	5.8	d ≡ ● ⌐◪ p.
7	35.76	18.8	24.7	16	92.8	SE quad.	1.5	7	Ci.	Cu. WSW	10.9	≡² ⌐◪ ● p.
8	35.36	19.1	25.8	16.3	86.7	E	1.3	8.9	A.-Cu. SE	Cu. ESE	------	⊤ ≡° p.
9	35.20	18.3	20.2	16.5	80.3	E, SE	1.5	9.9	Ci.-S.	S.-Cu. S	.6	d° a. p.
10	35.77	18.7	24	16.6	86.3	E quad.	1.7	9.6	A.-Cu., Ci.-Cu. E	Fr.-Cu. SE	6.7	p a. ● ⊤ d p.
11	36.29	18.6	24.3	16.3	86.3	E quad.	2.2	9.4	A.-Cu.	Fr.-N. W	14.5	≡° ⊤ ● ↙° p.
12	36.25	18.5	24.5	15.6	87.3	E quad.	1.3	8.6	Ci.-S. NE	Cu.	5.4	◯ ° ≡ ⌐◪ ●° ◠² d
13	36.19	19.4	24.9	16.1	86.8	E, W	1	6.1	Ci.-S.	Cu.-N. WSW	1.6	◯ ⊤° ●° ◠² p.
14	36.29	18.9	25.8	16.6	88.3	E quad.	1.3	9.3	Ci.-S.	Fr.-N. SW	5.1	◯ a. ≡ ⊤° ◠° ● p.
15	36.34	19.4	25.2	16.5	86.3	E quad.	1.2	9.1	Ci.-Cu. ENE	Cu. E	6.1	⌐◪° ● p.
16	36.18	17.5	22.3	16	91.7	E, W	1.3	9.6	A.-Cu. SE	Cu.	24.3	⊤° a. ● ⌐◪ ≡° d p.
17	35.83	18.4	23.4	16	83.2	Variable	1.2	7.7	A.-Cu. NE	Fr.-N. W, N	28.9	● ⊤ d° p.
18	34.84	18.5	23.2	16.4	87.7	Variable	.8	9.7	A.-S.	Fr.-N.	8.4	☊ d° ≡² ● ⊕² ◯
19	33.29	19.4	24.5	16	88.8	SE quad.	.8	9	Ci.-Cu. ESE	Fr.-Cu. SSE?	------	◯ a. ≡° ⌐◪ ◠° ●° p.
20	32.62	18.9	23.5	17.1	93.2	SE quad.	2.5	9.6	Ci.-S.	S.-cf. SE	5.6	☊ a. ≡² ● ⌐◪° p.
21	32.68	18.3	21.2	16.5	92.2	S quad.	1.8	9.9	A.-Cu.	Fr-N. SW quad.	7.7	● d° a. p.
22	33.37	17.8	20	16.4	91.3	S quad.	1.7	10	A.-S.	N. SSW	5.5	d² ●° a. p.
23	33.63	17.7	20	16	94.2	S quad.	1.3	10	A.-Cu., Ci.-S.	Fr.-N. SW	16.3	d a. p. ● p.
24	34.46	17.5	21.1	15.9	93.3	SW quad.	1.8	10	Ci.-S.	N. SW	18.6	● a. p. ≡² p.
25	35.12	18.3	23	15.5	91.3	S quad.	1.3	9.3	Ci.-Cu. ENE	Cu.-N. SWbyS	2.8	⊕ ◯ a. ≡ ●° p.
26	35.46	18.6	23.6	16	88.2	SE	1.8	8.4	Ci.-S.	S., S.-cf. ESE, SE	.3	⊤° p.
27	34.79	18.4	20.7	16.2	83.7	E	2.2	9.1	Ci.-S.	Cu.	.5	d p.
28	33.75	17.4	18.9	16	91.2	E quad.	1	10	A.-S.	N.	12.2	☊ d² a. ● a. p.
29	34.16	17.6	21.3	15.8	95	W quad.	1.3	10	Ci.-S.	N.	30.4	d° a. ● ≡ p.
30	34.12	16.8	19.8	15.6	97.8	SW quad.	3.3	10	Ci.-S.	Fr.-N. SW	125.5	≡² ●° a. p. ●² p.
31	32.60	16.5	17.4	13	99.3	W, SW	7.3	10	------	------	224.9	●² ≡² ↙ a. p.
Mean	635.09	18.6	22.9	16.2	89.2	------	1.8	8.9	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	583.8	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 14.7 meters; gravity correction not applied, —1.61 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.55	27.8	32.4	23.4	86.3	SE quad.	1.2	6.5	A.-Cu.	Cu. SSW	32.4	d° a. p. ⌐◪² ●² ◟ p.
2	56.86	28.2	32.3	23.8	82.8	SSW	1.7	6.8	Ci.-Cu. NbyE	Cu. SSW	------	d a.
3	57.43	28.7	32.8	24.8	82.3	Variable	1	4.7	A.-Cu. ESE	S.-Cu., Cu.	------	◠ ◟ p.
4	58.16	28.8	32.6	25	84.2	S quad.	1	6	A.-Cu. ESE	Cu. SW	10.1	●° ◟² p.
5	58.24	27.4	32.2	23.2	91	Variable	1.5	6.8	A.-Cu. NE	Cu. SW	3.5	d a. ●° ⌐◪ p.
6	57.72	28.4	32.3	23.2	81	ESE	1	4.3	Ci.	Cu. SSW	------	
7	57.33	28.8	33.1	25.1	80.7	E quad.	.7	5.7	Ci. NE	S.-Cu. SSW	------	⌐◪ d° p.
8	56.83	27.2	32.6	23.8	86.2	E quad.	1.2	4.8	Ci.-S. NE	Cu. ESE, SSW	3.8	●° p.
9	56.55	28	31.7	24.1	83	SW quad.	1	8.7	A.-Cu. NE, E	Cu.-N. SSW	.1	⌐◪ d° p.
10	57.29	27.6	33.3	22.2	86.2	S quad.	1.2	8.2	A.-Cu. E	Cu.-N. SW	99.4	d ◠° a. ⌐◪² ●² p.
11	57.88	26.7	32.9	23.5	86.3	Variable	1	8.8	A.-Cu. E	S-Cu. ESE	12.3	d° a. ⌐◪ ●° p.
12	57.91	27.4	32.7	23.4	86.2	E quad.	1	5.8	Ci.-S.	Cu. NNE, NW	1.5	d a. p. ⌐◪ p.
13	57.45	28.3	32.9	24	80.8	N quad.	1.3	4	Ci.-S. NE	Cu., S.-Cu.	------	⌐◪ ◟ p.
14	57.63	28.1	33	23.7	81.8	E quad.	1.3	6.8	A.-Cu., Ci.-S. NE, E	Cu. SW	6.2	⌐◪ ●° d ◟ p.
15	57.82	27.5	32.3	24	83.3	Variable	1.2	6.8	Ci., A.-Cu. E, S	Cu. SW	------	⌐◪ d° ◟² p.
16	57.89	27	33.1	22.4	84.7	E	1.2	7.3	Ci. NE, NNE	Cu. WNW	16.7	⌐◪ ● ◟ p.
17	57.41	26.6	32.3	23.3	87.3	E quad.	1.3	5.3	A.-Cu. ESE	Cu. SSW	1.5	⌐◪ d p.
18	56.09	27.2	32.6	23.5	84.8	E quad.	1.2	6.7	Ci. ESE	Cu. NW	6.6	◯ ⊕ a. ⌐◪ ●° p.
19	53.94	28.5	33.4	23.5	83.8	SE quad.	1	6.5	A.-Cu. E	Cu. NE	11.7	⊕ a. p. ☋ p.
20	53.49	28.1	32.2	23.2	90.3	W quad.	1.3	8.7	A.-Cu. NNW	Cu.-N., Cu. SW, NW	56.9	●² ◯ a. p. ⌐◪² p.
21	53.26	27.1	31	24.6	88.8	S quad.	2.5	9.3	Ci.-S. WNW	Cu.-N. SSW, S	13.3	●° ◯ a. p. ● p.
22	53.86	27.5	29.7	24.5	80.8	S quad.	3.5	9.8	Ci.-S.	Cu.-N. SSW	4.1	d° ↙° a. p. ● d p.
23	54.31	28	31.2	24.8	80.5	SSE	3.2	9.7	A.-Cu. SSW, SW	Cu.-N., Cu. S	1.3	↙° d a. p. ☋ p.
24	55.65	27	30.5	23.9	84	S quad.	3.2	9.5	A.-Cu.	Cu.-N. S	.5	d p.
25	56.37	27.1	31.2	24	85.8	S quad.	1.7	6.8	Ci. E	Cu. S, SSW	16.7	d ●² ⊤ p.
26	57.12	27.2	31.5	23.6	84.8	E quad.	1.3	5.7	A.-Cu. E	Cu. SSW	.5	d p.
27	56.28	27.2	31.7	23.5	87.7	N quad.	.8	6	Ci.-S. SSE	Cu., Cu.-N. NNE	8.7	●° d p.
28	55.11	27.8	31.7	24.5	89.8	Variable	.7	9.5	A.-Cu. NE	Cu.-N. NNE, SSW	------	d a. ⊕ a. p. ☋ p.
29	55.74	26.4	30.2	23.5	91.7	SE quad.	1	9.8	A.-Cu. ESE	Cu.-N. ESE, SW	16.3	d° a. p. ● ⌐◪ p.
30	55.62	25.9	29.2	23.4	90	S quad.	2	10	Ci.-S.	Cu.-N. SSW	33.2	d a. ● p.
31	53.65	24.8	26.7	22.3	97.8	SW quad.	3	10	Ci.-S.	N. SW quad.	302.8	●² a. p. ↙° ⊤ p.
Mean	756.40	27.5	31.8	23.7	85.6	------	1.5	7.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	660.1	

[a] The barometric readings of this station are not reduced to sea level.

Meteorological data for first and second class stations—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.54	28.6	37.6	23.2	71.8	S	1	5.2	Ci.	Cu.-N. NW	1.5	⌐⌙ ⌒ p p.
2	57.05	29.4	38.6	23.5	72.5	Variable	.7	6.8	Ci.-S. E	Cu.-N. S		⊤ d ² ⌒ p.
3	57.58	29.3	39.2	24.2	78.3	SE, NW	.8	5.8	Ci. NE	Cu. S, SE	2.8	● ° ⌐⌙ ° ⌒ p.
4	58.27	28.9	37.6	25	78.7	SE, SW	.3	2.8	Ci.	Cu., Cu.-N. SE, NE	4.1	♌ ° a. ● ° ⊤ ⌒ p.
5	58.23	30.2	38.8	24	71	S quad.	.7	2		Fr.-Cu. SE		♌ ° a. ⌒ p.
6	57.68	29.6	39.8	23.6	69.5	N quad.	.8	1.8	Ci.-Cu. SE	Cu. SE, N		♌ a. ⌒ p.
7	57.31	29.8	39.6	24.3	69.2	SE	1.2	4.3	Ci. N	Cu., N.-cf. S, N		♌ a. ⊤ p.
8	57.23	29.3	36.7	23.7	71	SE quad.	1.2	5.3	Ci.-S. SW	Cu.-N. N, NE		♌ a. ⊤ ⌒ p.
9	57.80	25.6	30	24	91.3	S	.2	7.8	Ci.	S.-Cu., N. S	10.1	● a. ● ° ◠ ⊤ ⌒ p.
10	58.43	25.4	35.4	23	89.7	S quad.	.7	7.5	Ci. S	N. SE	7.9	● d ◠ ³ ⌒ p.
11	58.50	26.9	37	22.9	82.5	SE	.3	7	Ci.-S.	Cu.-N. NE	10.1	⊤ ° ● ° ⌐⌙ ⌒ p.
12	58.22	27.5	33.8	23	81.7	Calm	0	7	Ci.-S.	Cu.-N. SE		d ° ⌒ p.
13	57.79	29	39	23.5	72.5	SW, SE	.3	5	Ci.	Cu., Cu.-N. SE		⌒ ° p.
14	58.03	28.8	39.3	24	76	S quad.	.8	7.3	Ci. E	Cu.-N. NE		♌ ° a. ⊤ d ⌒ p.
15	57.92	29.1	38.3	23	74	SE	.7	6.7	Ci., Ci.-S.	Cu.-N. E, NE	1	♌ a. ⌐⌙ d ² ⌒ ² p.
16	58.16	28	38.6	24	81.2	SE quad.	.7	8.2	Ci.	Cu.-N. S	8.9	⌐⌙ ² ● ° ⌒ p.
17	57.66	27.3	37.1	23.2	82.2	S quad.	.8	6.7	Ci.-Cu., Ci.-S.	Cu.-N. S	2	p ⌐⌙ ⌒ p.
18	56.79	27.6	35.4	23.3	84.5	SE	.2	7.7	Ci.-S.	Cu.-N. S		d ⌐⌙ ⌒ p.
19	55.22	27.3	34.7	23.3	83.7	Variable	.5	6.3	Ci.-S.	Cu.-N. NE		d ⌒ p.
20	54.01	28.2	38.6	24.4	81	SW, N	.5	7	Ci.	Cu.-N. N	25.9	● ² ⌐⌙ ² p.
21	53.72	27.5	36.7	23	82.7	Variable	.8	9	Ci.-S.	Cu.-N., N. SE, S	21.6	● ² ⌐⌙ ² ⌒ ² p.
22	54.08	27	31.4	23.1	86.5	S	.3	9.2	Ci.-S.	Cu.-N. S, SW		d p.
23	54.47	28.2	36.3	22.3	79	SSW, SE	.3	7.7	Ci.-S.	Cu.-N. S	20.8	◯ ° a. ◠ ° ● ² ⌐⌙ ² p.
24	55.55	27.5	36	22	82.5	E, NW	.3	8		Cu.-N. NE	39.6	● ² ⌐⌙ ° ⌒ ² p.
25	56.50	26.8	36.2	22.3	84.5	SE	.2	7.5	Ci.-S, A.-Cu.	Cu.-N. N		d p.
26	57.57	27.6	35.2	23.5	76.3	Variable	.8	5		Cu.-N. E, SW		⊤ ◠ ° p.
27	57.26	27.4	35.2	23	83.7	ESE	.2	7.3	Ci.-S.	Cu., S.-Cu. S	10.7	◯ ² a. ● ° ⌐⌙ ⌒ ° p.
28	56.13	25.9	30	24	91	NW	.3	9.3		Cu.-N. N	6.3	● a. p. d ⊤ p.
29	55.69	27	34.7	24	84.8	S quad.	.7	9.3	Ci.-S.	Cu.-N. S	14	● ° a. ⊤ ● ⌐⌙ p.
30	54.79	25.1	27.6	23.8	93.7	SE, S	.3	9.7		N. SE	7.1	d ● a. p.
31	52.50	25.4	30.8	23.1	87.7	SE	1.3	10	Ci.-S.	Cu.-N. S	35.5	d a. ● a. p.
Mean	756.70	27.8	36	23.5	80.5		.6	6.8				
Total											229.9	

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied—1.57 mm.]

	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.33	28	33.9	22.6	78	S	1.5	7	Ci. E	Cu.-N.		◯ a. ⌒ p.
2	56.92	28.7	34	23.9	75.7	Variable	1	8	Ci., Ci.-S. E	S.-Cu., Cu.-N.		◯ a. ⌒ p.
3	57.42	28.6	33.7	25	81.7	N quad.	1.3	4.5	Ci.	Cu.-N. S		
4	58.02	29.6	34.4	25.1	76.2	S quad.	1.3	.7		Cu. S		⌒ p.
5	57.96	29.4	34.3	25.2	76.5	Variable	.8	.5		Cu.-N. S		⌒ p.
6	57.59	29.2	34	25.1	73	S, NE	1.2	1.3	Ci.	Cu.-N.		
7	57.19	28.6	33.2	24.6	79.5	N quad.	1	5	Ci., Ci.-S. E	Cu. S		◯ a. ⌒ p.
8	56.90	27.6	34.3	24.6	82.8	N quad.	1.3	3.7	Ci. E	Cu., S.-Cu.	17.8	● ⊤ ° p.
9	57.32	27	30	23.5	83.7	S	1.5	6.8	A.-Cu. SE	S.-Cu. S		
10	57.72	27.8	33.6	24	79	S	1	6.2	Ci., Ci.-S. E	S.-Cu. S		◯ a.
11	57.96	27.6	33.4	23.9	80.2	S	1	7.2	Ci.-S. S	Cu.-N. SE	.8	◯ a. p. ⊤ ● ⌒ p.
12	57.91	27.3	31.1	22.6	82.3	SW, E	1	6.2	Ci.-S.	Cu.-N., Cu.		⊤ ⌒ p.
13	57.52	28.3	33.4	24.2	75.7	W	1.3	3.3	Ci.-S., Ci.	Cu.-N. S		⊤ ⌒ p.
14	57.57	27.8	34.7	25	79.8	W	1.2	2.2	Ci.-S. SW	S.-Cu.		⊤ ⌒ p.
15	57.66	28.2	34.4	23.6	77.7	Variable	1.5	2.5	A.-Cu. S	Cu.-N.		⊤ ⌒ p.
16	57.62	28.4	34	24.8	80.8	Variable	1.2	4.7	Ci.-S. W	Cu.-N. SW		⊤ ⌒ p.
17	57.29	28.2	34	24.1	79.5	Variable	1.3	6	A.-Cu. NW	S.-Cu.		⌐⌙ ° p.
18	56.48	27.5	31.2	24.2	83.3	E	.7	7	Ci. S	Cu.-N. SE		⌒ a.
19	54.95	27.4	31.8	24.2	83.2	E	.8	4.3	Ci.-S. E	Cu.-N. E	.8	● a. ⊤ ⌒ p.
20	53.80	28.6	33.2	25.2	81.3	E	.8	5.3	Ci. W	Cu.-N., S.-Cu.		♌ a. ◯ ⊍ p.
21	53.23	26.6	32.3	23.8	85.8	S	1.5	7.5	Ci., Ci.-S. S	Cu.-N. SW	20.9	⌒ a. ◯ ● ⊤ ° p.
22	53.54	27.4	31.3	23.6	81.3	S	1.5	10	A.-Cu. W	S.-Cu. SW		⊤ p.
23	54.26	27.1	30.5	24	84.2	S	1.5	10	A.-S.	S.-Cu.	28	⊍ ● ⌒ p.
24	55.08	27.6	33.2	23.6	82.2	Variable	.8	7	Ci.-S. E	S.-Cu. S	.8	⊤ ● ⌒ p.
25	56.11	27.4	33.6	23.1	82.5	S	.5	3.3	Ci.	Cu.-N.		⊤ ◠ ⌒ p.
26	57.07	27.4	32.2	23.8	82.8	S	.7	1.5	Ci., Ci.-S.	Cu. S	2.5	⊤ ● ⌒ p.
27	56.84	28.2	33.1	24.6	79.7	SE, E	1.2	4.2	A.-Cu., Ci.-S. SE	Cu.-N. S	1	◯ p.
28	55.94	27	31.3	24.1	85	SE	1.3	9.8	Ci.-S. SE	Cu.-N. SE	2	◠ ● a. ⊍ p.
29	55.32	27.8	32.5	24	82	E quad.	1.3	7	Ci.-S. E	Cu.-N. SE, NE	27.9	
30	54.08	25.8	29	23.4	89.8	S	1.3	10	Ci.-S. NW	S.-Cu. NE, W	15	⌐⌙ a. ● a. p.
31	51.63	25.4	27.5	23	89.3	S	2.5	10		S.-Cu. W	54.4	● a. p.
Mean	756.33	27.8	32.7	24.1	81.1		1.2	5.6				
Total											171.9	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	21.9	96	85	10	10	2.3	♌ p a. ●° p.
2	28.6	22.6	98	96	10	10	40.6	● a. d° a. p.
3	31.6	22.4	-----	98	10	10	19.1	♌ ● a. p p.
4	29.6	23.1	98	96	10	10	5.8	♌ ●° a. d p.
5	29.6	23.1	97	81	10	9	-----	♌ a. d a. p.
6	30.6	22.6	97	81	8	10	6.3	♌ p a.
7	30.2	22.6	91	80	10	10	5.3	● a. d a. p. ◠ p.
8	29.8	22.3	98	96	10	10	44.2	♌ a. ● a. p.
9	29.1	21.5	96	92	10	10	-----	d p.
10	30.6	22.5	96	96	10	10	26.7	♌ ● a.
11	30.5	22.3	96	91	2	10	1.5	♌ ●° a. d p.
12	29.9	21.6	96	95	0	10	28.4	♌ ● a. ●° p.
13	31.6	22.3	97	70	10	10	-----	♌ a. d p.
14	30.2	23.1	97	88	10	10	9.1	♌ a. ● p.
15	31.4	22.3	97	97	10	10	50.3	♌ ●² a. p p.
16	30.6	21.6	97	69	1	9	-----	♌ a.
17	30.6	22.1	97	73	1	5	.8	♌ a ●° p.
18	28.1	22.9	99	80	10	10	5.8	♌ a. ●° a. p,
19	31.5	22.7	91	75	10	6	6.6	♌ a. ● p.
20	31.6	22.9	96	71	10	10	-----	♌ a.
21	32.2	22.5	97	71	10	10	-----	♌ a.
22	32.3	22.6	97	77	1	4	-----	♌ a.
23	32.8	22.4	98	74	9	9	-----	♌ a.
24	32.6	23	97	70	2	9	1	♌ a.
25	31.8	22.5	97	65	10	5	-----	☇ p d a.
26	30	23.1	96	74	9	9	-----	☿° ♌ a.
27	31	22.1	97	98	10	10	7.8	d ●° a. p p.
28	31.6	22.1	97	86	1	6	6.4	♌ a. ● p.
29	32	21.3	96	74	10	10	-----	♌ a.
30	31.2	22.3	97	91	1	10	1	♌ a. ●° p.
31	31.6	21.5	97	76	1	8	45.7	♌ a. ☿ ●² p.
Mean	30.8	22.4	96.5	82.8	7.3	9	-----	
Total	-----	-----	-----	-----	-----	-----	314.7	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.6	23.1	83	83	10	10	1	●° a.
2	27.8	23.4	82	89	9	10	1.3	●° d ☋ p.
3	29.6	23	89	80	7	10	16.8	● p.
4	29.2	22.8	90	75	9	9	-----	☇ p.
5	28.6	23.6	87	81	10	9	-----	
6	29.6	23.2	86	80	9	9	1.3	d ●° p.
7	29	23.6	93	94	10	10	31.7	●° a. p. ● p.
8	27.8	23.2	97	88	10	10	2.3	●° a. p.
9	28.5	23	90	83	10	10	6.9	d ● p.
10	29.5	22.8	93	76	10	10	22.4	● p.
11	29.7	22.5	90	80	4	7	-----	
12	30.6	22.5	92	83	2	9	-----	
13	29.5	23.5	90	74	10	8	-----	☇ p.
14	29.9	23.7	91	72	10	7	-----	d ☇ p.
15	31.1	23.4	95	74	9	6	-----	☇ d p.
16	29.9	22.8	90	72	5	9	-----	
17	29.5	23.7	90	73	9	8	14	
18	28.9	23.4	90	65	10	10	2.5	● a. d ●° p.
19	29.1	22	86	78	10	8	7.4	● p.
20	29.9	22.3	93	76	10	10	-----	
21	30.4	23.6	91	73	10	8	-----	
22	30.2	24	90	75	7	9	-----	
23	30.4	23.8	87	78	10	10	-----	
24	30.6	25.1	93	75	9	9	2.8	
25	29.7	22.4	94	68	10	7	.8	●° a.
26	29.5	24	90	84	10	10	4.1	p° p.
27	28.5	22.4	80	100?	10	10	10.6	●° a. ☋° ● p.
28	29.7	24.5	86	74	7	4	1.3	p p.
29	30	23	88	76	8	9	-----	
30	30.4	23.5	89	97	9	10	4.6	☋° ●° p.
31	29.5	22.1	91	78	7	8	9.7	● p.
Mean	29.5	23.2	89.5	79.2	8.7	8.8	-----	
Total	-----	-----	-----	-----	-----	-----	141.5	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.7	22.9	96	76	8	7	8.9	●° p.
2	29.2	22.9	96	75	7	9	-----	
3	27.7	22.5	96	88	9	9	5.6	d ●° p.
4	31.2	21.5	96	73	7	6	-----	
5	31.7	22.8	96	72	5	6	-----	
6	29.6	22.6	96	78	7	9	18.3	☿ ● p.
7	29.8	21.9	96	74	9	7	10.2	● p.
8	28.7	21.5	98	76	8	7	5.1	●° p.
9	27.3	22.1	97	83	8	10	-----	☿ p.
10	31.3	21.7	97	70	7	7	-----	
11	31.2	21.3	97	64	5	6	-----	
12	32.6	21.4	96	70	5	6	-----	
13	32	22.6	96	66	7	5	-----	
14	31.7	24	90	65	8	6	7.4	● a. p.
15	30.8	23.5	96	66	9	5	-----	
16	31.3	21.9	96	69	5	6	5.1	☿ ● p.
17	32.2	22.5	96	69	5	6	5.8	● ☿ p.
18	31.1	22.2	97	75	9	6	-----	
19	31.2	22	96	70	8	7	-----	
20	29.2	22.6	97	77	8	9	-----	
21	31.4	22.5	96	68	6	7	-----	
22	30.7	23.2	96	72	5	8	-----	
23	31.2	23.7	96	71	6	7	-----	
24	31.9	23	96	73	5	7	49.5	●² ☿ ☇ p.
25	30.2	21.2	97	78	9	7	13.5	● ☿ ☇ p.
26	29.7	23.1	97	85	10	9	14.2	d a. p. ● p.
27	28.6	21.4	96	73	7	8	-----	
28	30.2	21.3	96	71	8	7	-----	☿ p.
29	31.7	21.3	96	65	6	7	27.7	●² ☿² ☇² p.
30	31.2	22	97	74	8	7	-----	
31	30.1	22.1	94	72	6	7	-----	
Mean	30.6	22.3	96.1	72.8	7.1	7.1	-----	
Total	-----	-----	-----	-----	-----	-----	171.3	

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	23.9	92	73	9	8	1	d p.
2	30.5	23.2	96	75	8	9	.8	
3	31.2	23	94	86	9	10	25.9	d a. ● p.
4	31	22.3	96	69	10	9	1.3	
5	32	23.5	93	65	9	7	4.1	●° a. p. ☿ p.
6	30.5	23.5	96	83	10	10	27.5	● p.
7	31.1	22.1	93	69	10	7	23.4	● a. p.
8	29.1	22.1	93	82	10	10	3	●° a.
9	30.3	23	95	69	10	9	-----	●° a.
10	31.5	22.5	95	62	9	7	-----	
11	32	22.4	95	63	7	6	30.5	♌ ☰° a. ●² p.
12	32.2	22.9	93	66	10	5	-----	☇ p.
13	33.2	24.1	93	66	9	5	3.8	☇² p.
14	31.6	24.4	94	72	8	7	5.1	◠ a. ●◟ a. p. ◠° ☿ p.
15	31.8	23.2	96	67	8	9	1.3	●° p.
16	32.1	22.6	95	65	9	7	2.5	
17	31.4	23.6	94	69	10	6	36.8	●° a. ●² p.
18	29.2	23.5	96	77	9	9	12.7	●° a. ● p.
19	30.2	23.1	93	69	10	9	6.4	● a. p.
20	30.5	22.5	93	71	10	8	-----	☇ p.
21	31	23.2	93	69	8	9	1	●° p.
22	30.9	23.4	92	71	9	8	1.3	☇ p.
23	31.8	23	93	67	9	7	30.5	●° a. ♋ ☋ p.
24	32	22.7	95	69	7	5	38.4	☇² ●² a. p. ☋° p.
25	31.8	22.2	95	66	10	8	-----	☇ p.
26	29.4	24.2	92	74	9	9	5.1	● ◠² p.
27	28.4	22.7	95	77	10	9	14.8	● a.
28	30	23.1	93	71	10	9	-----	d a. ☇ p.
29	31.5	22.5	94	64	7	8	-----	♌ a. ♋° ☋° p.
30	31.6	22.4	95	65	6	7	7.6	♌ a. ● p.
31	31	22.2	93	69	9	7	36.8	●² p.
Mean	31	23	94	70.3	9	7.8	-----	
Total	-----	-----	-----	-----	-----	-----	321.6	

Meteorological data for third and fourth class stations—Continued.

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	23.8	95	75	7	5	3.8	●° a. p. ⊤ ◟ p.
2	30.8	24.1	97	79	9	10	23.9	p a. ⊤ ● ◟ p.
3	32.6	23.3	97	92	7	10	28.4	p a. ● ⊤ p.
4	32.9	23.2	96	68	9	6	1	p ◟ p.
5	33.4	24.1	97	72	7	6	2.5	d a. ◟² p.
6	33.2	23.4	96	63	8	5	2	≡° a. ●° a. p. ◟² p.
7	33.3	23.3	97	62	4	4	23.9	≡° a. ● ⊤ ◟² p.
8	32.4	23.2	98	79	8	9	9.4	● ⊤° ◟° p.
9	30.8	22.8	98	82	7	8	1.5	☊² a. ●° p.
10	32.9	22.9	96	78	6	9	15.7	☊² ≡° a. ● ⌒ p.
11	34.1	22.8	98	64	5	4	------	☊² ≡° ◟ a. ⌒ p.
12	34.3	24.2	97	57	7	5	------	⊤° ☊² ◟ a.
13	33.6	24.8	96	76	8	5	4.1	⊤ ●° a. ⌐◪ p.
14	33.3	24.6	97	71	7	6	32.3	p ⌐◪ a. ⌒ ●² p.
15	33.4	22.5	95	72	8	9	2	●° ◟ p.
16	32.1	24	97	80	9	6	2.8	●° a. ◟ p.
17	33.4	24	98	75	8	6	53.1	●° ◟ a. ●² p.
18	29.7	23.5	97	88	10	10	53.4	●° a. ↙° a. p. ●² p.
19	32.3	23.1	98	77	10	8	14.5	≡° a. ● a. p. ↙° p.
20	33.8	22.4	96	77	10	7	------	↙° ● a. ◟ p.
21	32.6	22.5	97	77	8	6	------	☊² ≡° ⊤ a. ◟ p.
22	33.7	23.8	97	74	8	9	------	☊ a. ⊤ ⊍ p.
23	33.8	24.2	95	67	7	4	------	☊ a. ◟² ⊤ p.
24	33.7	23.3	96	71	6	5	------	☊² a. ⌒ ◟ p.
25	34	23.7	94	55	10	7	------	d a. ⊽ p.
26	32.8	24.4	94	74	9	5	25.4	☊ ●° a. ⌐◪ ● p.
27	31	23.6	97	81	10	8	20.1	☊ ≡° ● a. ⊽ p.
28	31.6	23.5	93	82	5	7	1.3	☊² a. ●° ⊍ p.
29	32.7	23.4	96	74	8	6	?	☊² a. ●° p.
30	33.1	22.5	97	77	5	7	33.8	☊² a. ⊤ ●² p.
31	33.5	21.4	98	69	5	5	19.8	☊ a. ● p.
Mean	32.8	23.4	96.5	73.8	7.6	6.6	------	
Total	------	------	------	------	------	------	374.7?	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.5	24.4	90	78	7	10	------	☊ ⊕° a. ⊤ a. p. p° p.
2	27.5	24	96	82	10	10	0.3	☊ a. d° a. p.
3	30	24.3	94	81	9	10	------	☊ a. d° p p.
4	30.3	23.6	95	74	9	9	------	☊ d° a. ⊕ p.
5	34.5	22.6	94	70	7	8	6.9	☊ a. p ⌐² ◟ ●° p.
6	29.3	23.8	96	82	7	9	5.1	≡° ⊕ ●° a. ◟ p.
7	32.5	23.4	93	60	9	9	9.4	☊ d° a. ● p.
8	31.3	23.2	92	67	8	5	20.1	☊ a. ⊕ ⌒° ◟ ⊤ ● p.
9	28.6	23.4	94	89	10	9	1.5	● a.
10	31.9	22.6	92	70	7	9	------	☊ ⊕ a. p p.
11	33.7	23.1	91	58	4	6	------	☊ a. p° p.
12	34	23.1	95	64	2	5	------	≡° ⊕ a. p° ⌒ ◟ ⊤ p.
13	33.5	24.2	94	62	1	7	------	☊ a. ◟² ⌐² p.
14	33.7	24.6	95	62	7	7	19.8	☊ a. ⊕ ◟² ⌐² ● p.
15	31	23.6	96	79	10	9	.5	☊ d a. ◟² ⌐² p p.
16	30.8	22.8	96	71	3	7	11.9	☊ a. ◟ ⊤ ● p.
17	31.5	23.6	93	71	10	8	16.5	☊ a. ◟ p.
18	30.2	24.1	92	74	9	7	1.5	● ⌐² a. ●° ⌒ p° p.
19	30.3	24.1	93	65	10	8	23.4	☊ a. ⊤ ◟ ● p.
20	30.4	23.7	93	59	10	10	------	☊ a.
21	31.5	23.9	91	70	9	10	28.2	☊ a. ⊤ ◟² ● p.
22	30.1	23.3	95	69	7	9	------	☊ a. ⊕ d° ◟ p.
23	31.5	24.5	94	62	9	7	------	☊ a. ⊕° ⊍ ⊽² p.
24	31.8	23.3	89	60	9	10	2.3	d° a. ○ a. p. ◟ ●° p.
25	31	22.6	95	60	9	9	1.8	p° a. d° p.
26	29	23.9	95	85	10	10	10.4	p a. ⊤ ● p.
27	28.6	23.3	97	79	10	8	7.8	⌒ a. ● a. p. ⊕ ⊤ p.
28	30.7	23.2	96	71	7	10	6.4	☊ a. ○ ⊤ ● ◟ p.
29	32	23.6	92	64	9	5	2.5	☊² a. ●° ⌐◪² p.
30	32.1	23.8	92	68	9	7	------	☊ a. ◟ p.
31	32.2	24	94	56	9	6	1.5	☊ a. p p.
Mean	31.3	23.6	93.7	69.7	7.9	8.2	------	
Total	------	------	------	------	------	------	177.8	

DUMAGUETE.

[ϕ=9° 18′ N; λ=123° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.9	24.4	89	76	10	10	4	⌐◪ ● a. ○° ◟ d° p.
2	30.8	24	92	79	10	10	------	d² a.
3	31.4	24.1	87	75	10	10	21.3	d² a. ● p.
4	31	23.2	96	75	10	6	21.6	≡° ☊² ○° a.
5	31.1	23.2	96	72	10	7	7.4	d ●° a. ◟ p.
6	31.4	23.2	93	72	10	8	11.2	●° ⌒° a. ⌐◪ a. p. ○° p.
7	31	23.4	92	73	10	10	15.8	● a. p. ◟ p.
8	30.5	22.9	97	75	10	10	6.6	☊ ≡ ○° a. ● ◟ p.
9	29.6	23.2	93	83	10	9	------	↺² ☊² a.
10	30.8	23.6	89	73	10	10	------	☊ ○° a. ⊕ ○ ⌐◪ p.
11	31.3	23.6	86	70	8	4	.6	☊° ●° ⌒ a. ⌐◪° p.
12	31.8	24.4	88	74	10	7	------	⌐◪ ○° a. ⌐◪² p.
13	31.1	24.8	88	75	10	6	6.6	⌐◪² ●° a. ⌐◪° p.
14	31.8	24.1	94	74	10	7	97.3	⌐◪ ●° a. ⌐◪² ●² p.
15	31.1	21.6	90	76	10	8	------	○° a. p. ◟ p.
16	31.3	23.8	85	69	10	10	------	○² ◟° p.
17	30.5	24.1	91	91	10	10	2	d° ⊤ ●° a. ◟° p.
18	30.4	24.7	93	73	10	10	9.2	d p.
19	29.6	23.8	97	86	10	10	23.3	●° a. p.
20	31.3	23.4	96	75	10	9	4.7	≡° a. ●° a. p. ◟ p.
21	32.1	23.1	91	61	9	10	------	◟° d p.
22	31.8	23.8	91	72	10	10	------	○² a. p.
23	32.3	23.6	87	74	10	10	------	☊ a. ◟° d p.
24	32.9	23.7	89	69	10	7	------	d° ⌒° a.
25	31.2	25.5	69	68	10	10	------	◟ a. p.
26	31.8	23.8	88	69	8	10	6.5	☊ a. ○ ⌐◪° ●° p.
27	31	23.6	93	78	10	8	8.1	
28	30.2	23.4	96	83	10	10	2.3	d° a. ●° a. p.
29	32.1	22.5	97	64	8	10	.5	↺² ☊² a. ○² d² ⊍ p.
30	33.8	23.4	91	58	10	7	------	☊² a. d p.
31	32.6	23.8	90	65	7	8	------	☊° a. d° p.
Mean	31.3	23.7	90.8	73.5	9.7	8.7	------	
Total	------	------	------	------	------	------	249	

YAP (WESTERN CAROLINES).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.6	24	88	68	10	10	3.1	● a.
2	31.1	------	84	94	10	10	28	p. a. ↙° ● p.
3	31.7	------	92	75	10	10	1.5	⊽ ● a. ○ ●° d. p.
4	29.9	------	92	93	10	10	10.2	●° a. d° a. p. p p.
5	32.1	25.1	86	70	8	8	11.7	●° a. d p.
6	29.9	23.2	97	78	10	10	31	⊍ a. ● a. p. ○° p.
7	31.4	24.2	88	84	5	10	7.1	● a. d ⌒ ●° p.
8	31.4	23.2	92	66	10	8	12.2	⊽° ●° d ⌒ a. ● p.
9	32.1	23.1	88	71	10	10	------	● ↺° a.
10	32.3	25.3	86	69	10	10	1.3	☊ ↺° ●° a. ○² p.
11	32.2	24.8	90	72	7	9	2.5	☊² ●° a.
12	32.5	25.4	88	66	7	8	.3	☊° ⌒° d a. p° p.
13	33	25.5	85	70	9	6	------	d° p.
14	28	23.5	88	93	10	10	15	● a. p. ⊤° d p.
15	31.4	23.8	88	68	2	8	.8	☊ a. d p.
16	31.9	25	89	73	8	10	3.8	●° ⌒ a. d p.
17	28.5	23.5	98	81	10	10	2	●° a.
18	32.4	24.9	88	71	9	9	1.8	d. ●° p.
19	28.9	25	86	84	10	10	30.7	● a. p.
20	29.6	22.3	97	79	10	10	51.3	● d a.
21	27.9	22	96	86	10	10	5.6	●² a.
22	31.8	24	88	70	10	10	------	p a.
23	32.4	24.2	93	81	10	10	4.6	
24	31.2	23	92	71	10	10	4.3	● d² a. ●° ⊍ p.
25	31.5	22.6	94	74	10	10	7.7	● d a. p² ↺° ●° p.
26	31.3	23.7	88	75	10	10	49.5	●° p² ⌒° a. ●² p.
27	29.9	22.4	91	75	10	10	66.3	● a. ●° p.
28	31	22.2	96	70	10	10	1.1	●² d a.
29	32.2	23.5	85	93	8	10	24.4	●° a. ● d p.
30	29.9	23.3	94	81	10	10	38.4	● d a. ●° p.
31	31.4	22.7	95	81	10	10	1.6	● d a.
Mean	31	23.8	90.4	76.8	9.1	9.5	------	
Total	------	------	------	------	------	------	417.8	

Meteorological data for third and fourth class stations—Continued.

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.2	23.7	92	83	10	10	------	☾ ☋ p.
2	30	23.6	90	84	10	10	40.1	☾ ⊤² ☇ ●² p.
3	31	23.4	92	89	10	10	15.7	☾ ☾² p.
4	32	23.4	92	83	10	10	------	p ☾ ☾² a.
5	32.8	23.4	90	84	10	10	9.7	☾ ☾² p.
6	33	23.7	87	81	10	10	20.6	p a. d ● ☾ ☾² p.
7	31.7	23.4	90	79	10	10	------	☋ Ω² a. ☇² d p.
8	31.6	23.6	85	80	19	10	50.8	d ☾ ☾² p.
9	31.8	23.5	90	88	10	10	------	●² ☾ ☾² a. ☇ p.
10	31.6	23.4	87	80	10	10	------	
11	32.4	23.4	90	81	10	10	------	
12	31.5	23.5	91	82	10	10	------	☇² ⊤² p.
13	31.8	24.2	89	81	10	10	------	⊤° a. ☇² p.
14	31.6	24.4	85	77	10	10	10.2	⊤ a. d° a. p. p p.
15	32	24.3	93	80	10	10	------	☇ p.
16	32.4	24.8	93	83	10	10	37.1	d p a. ∩ ☾ ●² p.
17	32.6	24.2	92	84	10	10	47.2	d a. p. ☾ ●² p p.
18	32	23.6	93	85	10	10	------	● d ☾ ☾² p.
19	32.6	23.4	90	89	10	10	23.4	∪ ☇ ● ↙° p.
20	32.6	23.3	90	85	10	10	19	
21	32.6	23.6	89	83	10	10	------	d a. p. ∪ ☇ p.
22	32.8	23	92	88	10	10	------	☇² ∪ p.
23	30.5	24.8	93	89	10	8	------	☇ ∪ p.
24	30.4	24.4	92	85	10	10	------	☋ ☇ ∪ p.
25	31.4	24.4	93	88	10	10	------	d ●² ☋ ∪ ☾ p.
26	31.5	24.2	89	83	10	10	88.9	● d a. ☋ ☇ ∪ d p.
27	29.5	23.2	87	84	10	10	22.1	d ⊤° a. ☋ ∪ ☇ p.
28	29.8	23	92	79	10	10	------	∪ ☇ d p.
29	29.9	22.8	91	78	10	10	------	● ☾ d ∪ p.
30	32	22.8	92	86	10	10	12.7	⊤ d p.
31	32.2	22.8	90	77	10	10	------	
Mean	31.7	23.7	90.4	83.2	10	9.9	-----	
Total	------	------	-----	-----	-----	-----	397.5	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.3	23	90	80	10	9	6.7	Ω² a. ● ⊤ ☇ p.
2	27.8	23.5	95	85	10	10	17.3	● a. ○ p.
3	31.1	23.6	91	75	9	10	5.3	Ω² a. d² ● p.
4	27.9	23.6	92	91	10	10	41.1	● a. ●² p.
5	31.3	22.5	96	81	10	10	8.2	⊤ ● d p.
6	31.9	22.5	96	76	6	9	2.6	● d ⊤ ∩ ☇ p.
7	32.8	23.5	88	82	10	10	1.5	☾ ● p.
8	30.8	23.5	90	77	10	10	------	d a. d² p.
9	29.8	23.4	94	81	10	10	21.6	d° p a. d ● p.
10	30.4	23.8	96	84	10	10	13.2	● a. p p.
11	32.8	23.1	96	72	10	9	17.8	● ↘ p.
12	31.8	23	93	72	10	10	9.7	☇ ● ⊤ p.
13	32.8	23.6	95	87	10	10	1.5	● ☇ p.
14	29.8	24.7	95	82	10	10	10.2	● ⊤ a. ●° ⊤° ☇ p.
15	30.8	24	92	75	10	9	3.8	d ● a. ○ ⊤ ☇ p.
16	30.7	24	93	87	10	10	.3	● p.
17	32.2	23	91	70	9	9	33.3	Ω² a. ●² ∩ p.
18	29.4	23.6	96	82	10	10	8.6	d a. p. p p.
19	28.3	23.6	80?	96	10	10	63	●² a. p. d ↙° p.
20	29.7	23	86	85	10	10	31.2	● a. p.
21	29.8	23.4	95	87	10	10	.5	● ⊤ a. ○ d² ☾ ☾ p.
22	30	23.5	88	83	10	10	1	d a. ●° ☇ p.
23	29.7	22.7	93	95	10	10	36.1	●² p.
24	31.3	22.5	96	71	10	10	5.8	● p.
25	31.7	23.5	91	73	10	10	6.9	d a. ☇ ● p.
26	31.8	23.4	92	71	8	10	3.6	☋ p.
27	30.8	23	96	85	10	10	31.8	● a. ●² p.
28	29.3	23	97	93	10	10	73.9	d a. ●² a. p.
29	28.3	22.6	94	81	10	10	6	●² a. ☇ ●° p.
30	29.8	23.6	87?	93	10	10	35	p a. ↙° ⊤ ● p.
31	30.3	22.1	96	92	5	10	12.9	● ⊤ ☇ p.
Mean	30.6	23.3	92.6	82.1	9.6	9.8	------	
Total	------	------	-----	-----	-----	-----	510.4	

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34	25.2	94	64	10	7	63	d² a. p. ☾ p.
2	26.9	23.6	97	87	10	10	4.8	●² a. d° p.
3	31	24.2	96	81	9	10	6.6	☐ ≡° a. d p.
4	30	23.9	94	79	10	10	58.2	● a. ●² p.
5	29	23.9	96	86	9	10	4.8	☐ ≡° p° a. p p.
6	31.5	24	97	73	8	8	------	☐² ≡ a. ☾ p.
7	31.2	25.4	93?	75	9	10	28.4	☐ d° a. ● ☇ p.
8	30	24.5	97	89	10	10	7.9	● ↘ a. ●° p.
9	29.6	24.3	96	85	9	10	15.3	☐ ☐ ≡° ∩ ● a. ●° p.
10	31.7	24.9	96	78	9	9	3	☐ ☐ ≡° a. p ☇ p.
11	31.6	24.2	97	70	8	8	------	☐ ☐ ≡ p° a. ☇ p.
12	31.2	24.2	95	72	8	8	------	☐ ☐ ≡° a. ☾ p.
13	32.2	25.5	87	75	9	9	11.2	☐ ⊤ ●° a. ● ☇ p.
14	27.9	25.5	94	90	10	10	18.3	● ☾ a.
15	29.3	25.1?	97	87	10	10	9.9	● p a. ☇ p.
16	31.4	23.8	97	76	10	9	.5	d² a.
17	30.5	24.1	97	79	10	9	40.3	●² a.
18	26.8	24	93	90	10	10	78.3	●² a. ●° p.
19	29	24.8	86	86	10	10	13.2	p° d² a. ↙° ●° p.
20	30	24.3	95	80	10	10	23.4	d ●° a. p.
21	30.8	24.6	94?	82	10	10	4.6	●° a. p p.
22	31.8	26.4	86	77	10	9	6.4	● ☾ p.
23	28.9	23.7	95	93	9	10	27.4	● a. p. d° ☾ p.
24	29.6	22.7	92	84	10	10	16.8	⊤ d° ☇ p.
25	29.9?	22.8	97	70	10	10	26.9	p° a. ● a. p. ☇ p.
26	31.8	22.2	97	70	9	8	------	☋ p.
27	31.7	25.4	84	73	10	8	12.2	p² ☇ p.
28	31	23.9	93	79	10	10	12.7	p° a. ● p.
29	29.7	24.6	94	85	10	10	10.5	d° p° a. ☇ ● p.
30	29.9	24.3	86?	89	10	10	17.5	☾ ● a. ☇ ● p.
31	30.7	23.9	97	79	10	10	6.1	●° a. ● p.
Mean	30.3	24.3	93.8	80.1	9.5	9.4	------	
Total	------	------	-----	-----	-----	-----	528.2	

GUIUAN.

[ϕ=11° 03′ N; λ=125° 43′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.8	23.5	97	78	9	9	0.3	○° a. ○² d ☇² p.
2	28.3	24.4	98	87	10	10	2.5	●° a.
3	31.9	24.7	90	80	9	10	------	
4	29.2	25.3	93	83	9	9	.8	p° a. ☇° p.
5	32.4	22.5	97	73	6	7	1.5	Ω² a. ⊤° ∩² ☇² p.
6	31.7	22.6	97	69	5	7	.3	●° a. ☇° p.
7	31.9	22.3	98	82	7	9	?	Ω² a. ∩² ● p.
8	30.5	23.1	96	75	5	8	41.1	d a. p° p.
9	31.2	22.3	96	79	10	7	1.3	●² d² a. ☇° p.
10	30.4	22.1	98	74	9	9	------	Ω² ○² a. ☇² p.
11	31.7	22.7	96	64	2	2	3	Ω² a. p. ☇² p.
12	32.8	22.7	96	69	8	8	12.2	●° ⊤ a. Ω² p p.
13	30.9	24	95	80	6	9	14.4	● ∩² a. ⊤ Ω² p.
14	31.5	23.9	96	75	9	8	26.3	● p ○² a. ☇² p.
15	30	23.3	97	75	10	9	.5	● p a. d a. p. ☇² p.
16	31	22.8	98	80	9	7	2.1	Ω² d ○° a. ⊤ p° ☇ p.
17	29.8	23.8	96	80	9	9	2.3	Ω° ☇° p.
18	29.4	24.2	87	80	8	6	1.3	●° a. d p.
19	29	25.2	84	77	10	9	------	●° ○² a. ○° ☋ p.
20	29.1	25.7	83	79	10	9	------	○² ↙° p.
21	29.3	26.4	85	80	8	10	8.6	☋ ● p.
22	29.6	22.6	90	75	10	9	------	☋ ☇² p.
23	31.9	25.2	90	81	9	7	10.4	⊕ ☾ ● p.
24	30.1	24.4	79	76	9	9	9.7	○² a. ● a. p. ☇° p.
25	30.9	23.1	97	77	9	9	4.6	○° ⊤ ☇² ●° d p.
26	31.1	22.8	97	77	9	10	37.8	d ☾° p° a. ●° p.
27	30.6	23.1	97	77	8	7	------	● d° a. ∪² p.
28	28.7	26.4	85	81	10	10	------	∪° p.
29	29.7	26.3	80	84	10	8	------	○° a. ☋ ● ☇ p.
30	30.2	23.8	89	79	9	6	------	☾ p.
31	31.7	22.6	96	74	9	7	------	○² ☇ p.
Mean	30.6	23.8	92.7	77.4	8.4	8.2	------	
Total	------	------	-----	-----	-----	-----	181?	

Meteorological data for third and fourth class stations—Continued.

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.8	23.4	96	69	6	6	------	☾ ●° ≡° a. ○ ☾° p.
2	30.6	24	95	81	8	7	4.8	⊃☾ ≡° ● a.
3	31.2	23	97	75	6	8	------	⊃ ≡ a. d° a. p.
4	28.8	22.8	95	73	6	7	------	⊃ ≡° d a. ☾ p.
5	31.8	22.6	97	69	3	4	11.4	⊃ ≡ a. ☾ ● p.
6	31.2	23.2	96	69	4	4	------	≡° a. ☾ p.
7	31.4	23.2	96	67	6	6	6.9	⊃ ≡° d a. ● ☾ p.
8	30.8	23.4	96	71	5	6	4.1	≡° ◠ a. ●° ☾° p.
9	30.7	23.1	97	74	8	6	3.8	●° a. p.
10	31.2	22.6	97	72	7	9	------	⊃ ≡ a.
11	31.5	22.4	97	67	2	4	------	⊃ ≡ a. ☾ p.
12	31.9	22.7	95	68	4	5	3.6	⊃ ≡° a.
13	31.6	24.3	97	72	6	6	33.8	●° a. ┼ a. p. ● p.
14	31.9	24.5	98	71	7	6	13	● ≡ a. ☾ ●° p.
15	31.4	23.8	97	67	9	7	2.8	≡ a. ● ┬ ☾ p.
16	30.5	23.4	97	80	8	8	19.6	≡ a. ● ┼ a. p.
17	31.8	23	97	66	8	7	1.3	≡ ●° a. ☾ p.
18	30.5	24	95	83	7	7	16.8	⊃ ≡° a. ● p.
19	31.2	22.6	98	84	8	8	1.8	⊃ ≡ a. ●° ☾ p.
20	32	23.4	94	62	7	7	1	⊃ a. ● p.
21	32.5	22.4	95	64	7	8	8.6	● p.
22	31.8	22	95	59	8	9	------	☾° p.
23	33	23.2	96	74	8	6	------	⊃ ≡° a. ☾ ☾° p.
24	32.5	23.7	94	67	7	7	------	☾ p.
25	30.6	24	94	69	7	6	15.5	⊃ a. ● ☾ p.
26	30.8	22.6	95	71	5	7	7.9	☾² ┼ d² a. ● ☾ p.
27	29.4	22.8	97	76	6	7	7.2	●° d a. ● p.
28	31.8	22.6	97	70	7	8	1	d ●° p.
29	32.6	23.3	97	69	9	7	8.1	⊃ ≡ a. ● ☾ p.
30	31.9	23.2	95	67	9	6	3.6	⊃ ≡° a. ● ┼ ☾ p.
31	31.6	22.2	98	69	7	8	------	≡ a.
Mean	31.4	23.1	96.1	70.8	6.6	6.7	------	
Total	------	------	------	------	------	------	176.6	

MASBATE.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temparature. Maximum.	Temparature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	25.4	89	70	9	8	------	
2	32.2	26.5	91	78	10	10	------	
3	31.4	25	90	86	10	10	6.4	
4	31	24.6	92	75	9	9	26.4	
5	31.6	23.5	95	69	9	9	------	
6	32.6	26	94	60	8	4	------	
7	32	25.6	93	78	9	9	8.6	
8	30.6	24	93	83	9	10	5	
9	31	24.5	96	86	9	10	8.9	
10	30	24.5	92	78	10	8	------	
11	32.6	25.5	96	60	8	8	------	
12	33.2	26.5	88	66	8	4	------	
13	33.8	26.2	88	62	8	9	------	
14	33	26.6	87	88	8	10	2.8	
15	31.5	25	93	72	9	10	2.8	
16	30.5	23.5	93	78	10	10	.5	
17	29.5	25.5	96	75	10	10	26	
18	29	24.2	96	89	10	10	6.4	
19	30.4	24.5	95	83	10	10	11.4	
20	29.6	24.6	84	90	10	10	35.5	
21	31	24.6	87	72	9	10	6.6	
22	31.6	24	90	76	10	9	------	
23	32.5	25.6	94	66	10	8	.5	
24	33.6	25.2	87	70	9	8	------	
25	33.8	26.6	84	69	10	9	.8	
26	32	25	88	87	10	10	5.5	
27	31.2	24.4	88	84	10	10	5.1	
28	29.8	24.6	97	81	10	9	21.6	
29	29.6	24.2	99	96	10	10	15	
30	30.5	24	96	92	9	10	1.5	
31	30.6	25.5	95	75	9	10	1.5	
Mean	31.4	25	91.8	77.2	9.3	9.1	------	
Total	------	------	------	------	------	------	198.8	

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.5	24	96	75	10	9	57.1	p° a. p. d ☾ p.
2	33.8	22.8	98	66	10	10	.5	☾² ●² a. p° p.
3	34.1	25.2	91	64	10	9	14.5	d ◠ a. p° p.
4	31.1	24.4	96	73	10	10	3.1	● a. ●° d p.
5	37.7	24	92	72	10	7	.3	p a.
6	36	23.4	91	71	6	8	17.3	d a. ● p.
7	33.7	23.8	97	61	8	8	51.8	● ┼ a.
8	32.1	23	97	75	10	9	1	●² d a.
9	31.1	23.7	87	78	9	10	12.2	◠ a. d ● a. p.
10	34.1	22.8	98	61	9	6	3.6	p° a. d a. p.
11	33.3	23.5	97	88	3	9	6.1	●° a. d p° p.
12	34.7	23.8	97	57	5	3	.3	● a. ☾² ☾° p.
13	36.2	24.1	95	74	9	6	50	d a. ●² ☾² p.
14	27.7	23	97	94	9	10	44	●² ◠ a. d p.
15	32.1	23	87	82	10	6	4.6	p a. ● p.
16	30.3	23.8	97	84	10	9	1	p a. p°.
17	32.1	23.2	97	81	8	10	3.8	p° a. p p.
18	28.4	23.3	87	91	10	10	23.4	p a. ● a. p. d p.
19	------	24	85	74	10	10	------	p° a.
20	31.6	24.3	-----	78	-----	10	8.9	● d p.
21	30.7	23.8	85?	78	10	10	44.9	d a. ●² p.
22	32.6	22.7	90	73	9	10	2	● a. d p.
23	31.7	25.3	84	77	10	10	6.4	● p.
24	32.7	24.3	83	64	2	9	------	●° a.
25	34	24.7	72	63	8	3	------	☾ p.
26	34.7	23.5	95	64	10	5	20.3	⊃° a. ● ☾² p.
27	32.5	23.1	97	75	8	9	35.5	● p° a. p.
28	32.1	23.1	97	85	10	10	11.7	d° a. p. ●° p.
29	29.3	23.4	88	83	10	10	15.8	● a. d a. p.
30	32	23.4	84?	72	9	10	9.4	● d p.
31	33.2	24	84	80	9	10	9.6	d ● p.
Mean	32.7	23.7	91.4	74.6	8.7	8.5	------	
Total	------	------	------	------	------	------	459.1	

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.6	24.4	94	68	7	4	------	☾ p.
2	34.2	24.5	95	73	8	8	2.1	d a. ●° p.
3	32.8	23.6	93	76	5	7	12.2	d° a. ● p° p.
4	32	22.9	97	78	8	7	2.3	d a. ☾ p.
5	31.8	23.2	96	66	4	3	2.8	d² p.
6	33	23.6	94	59	4	4	------	d° a. ☾ p.
7	32.4	23.6	89?	71	4	8	6.4	☾ p.
8	33.6	23.8	97	81	8	8	4.1	● a. d a. p.
9	31	23	98	64	8	9	1.8	┼ ●° p.
10	32.8	22.8	98	71	9	8	.5	☾ d p.
11	31.3	22.6	98	69	1	4	.3	d p.
12	32.4	23.1	97	73	5	7	.8	☾ d° ◠° a. ┬ d p.
13	33.6	23.9	98	73	7	8	------	d° a. ┬ ☾ p.
14	32.6	24.1	96	79	8	8	1.3	┬ a. p. ●° d° p.
15	33.4	24.2	91?	72	7	7	.8	☾° p.
16	32.4	24.5	97	78	9	9	39.4	●° a. ● p.
17	32.6	23.4	97	76	10	9	1.3	● a. p p.
18	31.1	23.7	92	95	7	10	20.8	● ┼ ☾ p.
19	33	23	93	88	8	10	5.6	┼ a. p. ☾ ● p.
20	31.4	23.8	90	68	10	10	------	
21	32.1	24.4	93?	63	4	8	------	☾° p.
22	33.1	23.5	91	64	10	7	------	☾ p.
23	33.9	24.7	92	67	10	7	------	●° ☾² p.
24	33.4	23.8	87	66	2	7	------	┼ ☾ p.
25	32.4	24.6	92	66	10	9	------	☾ ☾ p.
26	33.2	23.4	92	82	6	10	30.7	┼ ●° a. ◠° ☾² ● p.
27	33	23.5	98	81	10	10	2.3	d° a. p. ●° p.
28	31.8	23	96	83	6	10	4.5	p ●° ┼ d° p.
29	32.1	23.4	96	69	10	7	.8	d p.
30	32.9	24.2	95	65	10	9	------	d° p.
31	33.2	24.3	92	69	10	10	------	p° p.
Mean	32.6	23.7	94.3	72.7	7.3	7.8	------	
Total	------	------	------	------	------	------	140.8	

Meteorological data for third and fourth class stations—Continued.

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	33	25.2	93	70	6	6	------	
2	31.3	25.3	95	76	7	10	------	
3	31.8	24.3	94	73	8	9	------	d ○° p.
4	30.8	23.1	95	74	8	7	------	
5	33.7	23.5	93	64	6	6	3.3	
6	32.2	24.8	95	70	7	6	6.6	●° a. p.
7	31.5	23.5	98	71	8	7	32.3	●° a. ● p.
8	30.5	23.4	96	74	8	9	------	● a.
9	31.3	23.7	96	69	8	8	------	
10	30.8	24.2	96	78	6	7	------	
11	32	23.9	96	66	6	6	------	
12	33	23.7	94	70?	7	7	9.9	●° p.
13	32.2	25.4	97	74	7	7	5.3	●° a. p.
14	31.6	25	96	80	7	8	------	●° a.
15	31.5	24.1	96	75?	7	6	------	
16	30.1	24.3	98	81	6	10	3	d p.
17	28.6	24.3	97	91	10	8	6.4	d a. ●° p.
18	30.8	23.4	98	85	10	10	------	●° a.
19	32.2	24	97	70	8	8	------	
20	30.2	24.7	92	91	9	10	5.3	● p.
21	32.8	24.6	93	76	9	9	4.8	● p.
22	34.3	23.7	98	64?	5	9	------	○ a.
23	34.9	24.6	92	60	10	7	------	
24	34.7	24.1	96	60	6	8	------	
25	32.8	25.6	98	69	6	9	7.1	⌣ p.
26	32.2	25	98	72	8	8	29	● a. p.
27	29.8	23.4	98	92	7	9	17	☾ a. ● a. p.
28	32.6	23.9	98	70	7	8	5.8	d a. ◠ ┬ ●° p.
29	31.8	24.2	95	71	7	10	10.9	●° a. ● p.
30	32.8	23.5	95	73	7	7	1.3	● a. d ┬ p.
31	31.5	24.8	92	73	9	9	------	
Mean	31.9	24.2	95.6	73.6	7.4	8	------	
Total	------	------	------	------	------	------	148	

SUMAY, GUAM (LADRONE ISLANDS).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	31.6	26	84	68	8	8	1.3	
2	32	26	84	66	5	8	1.3	
3	31.8	26	84	68	6	4	------	
4	31.4	26	84	65	6	4	------	
5	32	26	84	65	8	8	3.8	
6	32	26.4	83	65	5	5	8.9	
7	32	25.4	89	63	8	7	------	
8	32	24.4	81	63	6	5	------	
9	31.4	26.4	80	74	5	10	2.5	
10	32	25.8	84	65	6	8	------	
11	32.6	26	83	66	6	8	------	
12	32	25.4	83	69	6	5	2.5	
13	31.4	24.6	92	69	10	8	1.3	
14	32	25	84	62	6	7	15.2	
15	31	24	84	65	10	8	1.3	
16	32	26.6	84	65	6	8	2.5	
17	32	25.6	87	65	6	7	1.3	
18	32	25.6	84	65	6	7	6.4	
19	31	25.4	89	70	10	8	5.1	
20	28.4	23.4	92	91	10	10	11.5	
21	29	23.2	90	77	10	10	6.4	
22	29.4	23	92	71	10	10	------	
23	31	25.6	84	65	10	10	6.4	
24	31	24	87	78	5	10	22.8	
25	30	23	92	77	10	10	2.5	
26	28	25.4	84	84	5	10	22.8	
27	29	24	92	80	8	10	14	
28	31	24.6	92	65	10	7	10.2	
29	30.8	24	92	71	10	10	------	
30	30.8	26.6	84	71	5	10	2.5	
31	30.8	25	89	71	10	10	5.1	
Mean	31.1	25.1	86.4	69.6	7.5	8.1	------	
Total	------	------	------	------	------	------	157.6	

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	34.2	23.5	88	72	10	10	------	┬ ☾ p.
2	34.4	24.3	92	64	10	10	0.3	d ┬ a.
3	33.4	24.4	68	70	10	10	2	d p.
4	32.8	24.5	96	84	10	10	2.8	◠° a. ●° ┬ p.
5	33.5	23.4	98	65	10	8	------	d ◠° a.
6	33.8	22.5	96	65	10	8	.3	
7	34.1	23.5	97	72	10	10	45.2	┬ ☾ ●° a. ☐ ☾ ●² p.
8	31	22.7	99	75	10	10	18.3	d a. ● p.
9	28	23	98	98	10	10	15	d a. ● p.
10	31.5	22.6	98	73	10	10	19.6	● p.
11	32.5	24	98	74	10	10	------	┬ p.
12	32.8	23	96	72	10	8	2.3	●° p.
13	33.1	24	96	70	10	10	39.9	┬° p.
14	30.8	21.9	100	81	10	10	9.7	●² ☐ ☾² a. ┬ ☾ p.
15	32	22.4	90	72	10	10	26.2	● ┬ ☾ p.
16	31.6	23.1	99	71	10	10	8.1	┬ a. p. d² p.
17	31.9	22	93	79	10	10	.3	●° a. p.
18	29.2	24.5	83?	76	10	10	28.7	d ●p.
19	31.3	23.1	99	84	10	10	4.3	d p.
20	32.2	24	98	87	10	10	34.8	d ┬ ● p.
21	30	24.5	98	89	10	10	6.8	d a. ●° p.
22	30.5	24	97	71	10	10	------	
23	32.1	23.8	96	92	10	10	5.6	d p.
24	32.4	23.2	98	85	10	10	1	p. p.
25	33.4	23.6	96	66	10	10	.5	●° ☐ ☾ p.
26	32.5	23.4	97	61	10	10	6.9	p ┬ ☾ p.
27	33	24	99	66	10	10	14	● ┬ p.
28	30	23	100	99	10	10	10.4	d a. ● a. p.
29	29.3	23.4	99	94	10	10	18.5	● p a. ●° d p.
30	27.1	22.9	99	92	10	10	9.6	d a. ● p.
31	30.5	23	93?	97	10	10	19.3	d a. ● p.
Mean	31.8	23.4	95.3	77.9	10	9.8	------	
Total	------	------	------	------	------	------	350.4	

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	33.5	23.9	94	67	10	9	------	☋ ☾° ☾° p.
2	33.5	24.2	93	75	10	10	------	p° ☋ ☾² ☾° p.
3	32	23.5	93	74	10	10	3	p° a. ☾° ☋° d ●° p.
4	31.8	23.2	95	71	6	6	1.6	●° ┬ a. d ☋ p.
5	34.4	23.9	93	63	7	3	.4	●° a. ☾ ☋ p.
6	33.5	23.8	95	69	7	7	5.6	d ●° a. ☾ p.
7	32.4	23.4	96	74	9	10	80.3	☾ ● p.
8	31.1	22.5	98	73	9	10	1.5	●² ☾° ☾² ┬° a. p p.
9	31.5	23	97	75	10	10	3.8	●° d ◠ a. p° p.
10	31	24	97	80	10	9	1.1	●° a. ┬° a. p. p° p.
11	32.5	23.2	97	75	8	9	------	●° a. ☾ p° p.
12	33	22	96	73	9	10	------	Ω² a. ┬ p° ☾° p.
13	33.2	23.5	96	70	9	8	2.8	Ω² a. ●° a. p. p ☾° p.
14	31.8	24.1	97	82	10	10	3.6	●° a. ┐° ☾° p.
15	31.7	23.8	96	78	9	9	8.3	● a. ┐° ☾ p.
16	29.9	23.5	96	89	10	10	12.5	p° a. d ┬ a. p. ● p.
17	26.5	23.4	98	98	10	10	80.3	●° a. p ●² p.
18	31.2	23	94?	75	10	9	.3	● a.
19	31.2	23.9	96	79	10	10	5.1	p² ●° a.
20	31.2	24.2	97	89	10	10	1.3	●° a. p. p p.
21	30.8	24	88	71	10	10	8	●p.
22	31.7	23	88	72	10	10	------	●° a. ☋ ☾° p.
23	32.4	23.2	96	68	10	9	------	☋ ☾° p.
24	32.8	23.3	95	72	6	9	------	Ω a. ┬ ☾ p° ☋° p.
25	32.4	23.1	96	75	10	10	21.3	┬ ☾² d° ☾ p.
26	30	23.2	97	89	6	10	37.6	☾ ●² a. ☾² ┬ ● p.
27	29.5	23	97	87	10	10	72.9	●² p° a. p. ☾° p.
28	30.9	22.5	97	75	10	9	30.2	● a. ☾° ┬ ●° d° p.
29	31	23.3	95	74	10	10	13.2	●² p° a. ☾° ● p.
30	29.5	23.6	93	87	10	10	1.5	●° a. p. p° ┬ ☋ p.
31	30	24.5	90	78	10	10	------	p° p.
Mean	31.5	23.4	95	76.7	9.2	9.2	------	
Total	------	------	------	------	------	------	396.2	

Meteorological data for third and fourth class stations—Continued.

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.5	21.8	97	63	10	9	18.3	
2	34.4	22.1	97	55	9	9	1.1	● a.
3	32.8	23.1	97	64	10	8	1.1	d a. ●° p.
4	32.8	22.6	97	72	9	9	5.6	● p.
5	34.1	22.5	97	66	8	8	17.8	● p.
6	32.2	21.7	98	83	10	9	13.2	● a.
7	33.6	21.6	98	86	8	10	12.3	● a.
8	32.9	22.5	95	88	10	10	7.7	d a. ● p.
9	32.4	22	97	89	9	10	3.1	●° p.
10	32.5	22.6	98	90	10	10	27.4	≡° a. ● ⊤° p.
11	33.5	21.8	98	69	9	8	------	
12	33.5	21.3	98	67	8	9	4.1	●° p.
13	34.3	22.5	97	79	8	9	.1	⊤° d p.
14	33	23.3	98	80	10	10	41.4	⊤° ●² p.
15	33.3	21.3	98	72	9	9	------	⊤° p.
16	32.4	22.2	97	95	10	10	6.9	●° p.
17	29.1	21.5	97	83	10	10	117.7	d ●² p.
18	30.8	21.5	98	90	10	10	58.9	●² a. p.
19	31.2	22.8	96	77	10	10	11.7	◠ ●° a. ● p.
20	28.6	23.1	93	95	10	10	23.3	●° a. ● p.
21	30.5	22.6	85	81	10	10	28.5	● a. p. d p.
22	30	21.9	91	75	10	10	.5	
23	32.1	23.5	93	67	10	9	4.1	d a. ●° p.
24	32.4	22.4	93	65	8	8	------	
25	32.8	22.6	95	68	9	9	.5	●° p.
26	33	23	97	80	9	9	12.5	● p.
27	31.5	22.5	97	92	10	10	16.7	● a. ●° p.
28	30.2	22.6	98	72	10	10	11.9	● p.
29	30.2	22.7	93	90	10	10	19.4	● p.
30	31.4	23.2	87	93	10	10	10.3	● p.
31	31.2	23.5	85	74	10	10	.8	●° p.
Mean	32.2	22.4	95.3	78.1	9.5	9.4	------	
Total	------	------	------	------	------	------	476.9	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	37.4	24.7	95	45	4	6	------	
2	36.5	24.9	93	42	7	5	------	
3	33.8	25.6	90	65	6	6	46.7	●² p.
4	29	23.8	95	90	6	9	32	● a. p.
5	32	23.3	96	67	4	6	------	
6	34.3	23.5	97	56	5	4	------	
7	34	23.4	92	54	3	6	1.8	d a. p.
8	32.8	24.4	96	79	9	9	29	● a. p.
9	29.4	23.2	93	82	9	10	3.8	d p.
10	32.4	23.1	97	64	9	7	6.9	p p.
11	33.5	23.2	95	72	9	9	------	
12	34.4	23.4	97	61	5	5	------	
13	32.2	23.6	96	68	6	7	35.3	● ⊤ p.
14	31.3	23.5	95	72	7	9	3.8	● a. p.
15	32	23.5	96	78	6	7	51.1	●² a. p.
16	31.8	24.2	95	92	9	9	.5	
17	28.8	23	97	90	5	10	10.2	d ● a. ●° p.
18	28.9	22.6	97	78	10	10	61.5	● a. ●² p.
19	31	23.7	92	73	10	7	------	
20	31.8	23.6	95	72	6	9	34	d a. ⊤ ● p.
21	27.3	23.8	97	80	10	10	14.2	● a. p.
22	29.4	23.4	78	77	10	9	.5	d p.
23	32.4	24.6	84	89	10	10	8.4	d p.
24	32.3	22.5	95	77	6	10	------	
25	32.7	24	74	64	6	6	8.9	
26	31.8	22.4	97	65	7	5	------	● a.
27	33.5	23.5	94	61	6	7	12.4	● p.
28	30.3	23	95	83	9	10	10.7	● a. p.
29	28.4	22.9	97	82	9	10	16.6	● a. p.
30	27.3	23.2	88	90	10	10	15	● a. p.
31	28.4	22.6	77	90	9	10	17.8	● a. p.
Mean	31.6	23.6	92.7	72.8	7.3	8	------	
Total	------	------	------	------	------	------	421.1	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.3	20.3	97	62	3	8	------	d a.
2	30	20.1	96	62	5	9	13	☊ ≡° a. ● p.
3	29.4	20	98	61	2	10	69.1	≡ a. ●² p.
4	29	20.2	96	64	4	9	14.2	d ● p.
5	29.6	19.6	97	65	5	8	------	☊ d a.
6	29.9	20	97	64	2	9	3.6	≡ a. p p.
7	29.3	20.4	98	63	6	9	32.7	☊ ≡ a. ● p.
8	28.8	19.4	96	63	10	9	4.1	●° a. p.
9	29.1	19.1	98	68	10	10	19.3	● a. p.
10	28.5	19.8	97	66	7	5	------	≡ a.
11	29.4	20	97	65	2	8	------	≡ d a.
12	30.1	20.3	98	65	6	9	11.2	☊ ≡ a. ⊤° ● p.
13	30.9	19.6	97	65	7	8	------	
14	31.5	20.1	97	61	2	5	------	
15	31.8	19.2	96	60	7	9	4.8	≡° a. ●° d p.
16	29.5	19	97	67	4	9	26.4	☊ ≡ ⊤° a. ● p.
17	28.8	19.4	96	65	7	8	2.5	d a.
18	29.1	19.1	97	66	10	9	7.9	●° a. p.
19	28.4	18.7	98	68	10	8	37.8	☊ a. ● p.
20	28	18.5	97	68	10	10	42.7	● a. p.
21	27.8	19	97	68	9	8	18.8	☊ a. ● p.
22	28	18.1	96	73	10	10	47.5	● a. p.
23	27.1	18	97	75	10	10	13.2	☊ ● a. d p.
24	27.8	18.7	97	66	2	8	3	●° a.
25	30	19.1	98	64	2	7	50.8	☊ ≡ ⊤° a. ●² p.
26	30.5	19	97	67	7	8	17.8	● p.
27	29.2	18.7	97	64	2	6	14	● p.
28	29.6	18.8	96	69	10	10	23.4	●° a. ● p.
29	28.1	17.5	98	73	10	10	55.4	● a. p.
30	27.5	17	97	87	10	10	36.8	● a. p.
31	27.1	16.4	98	89	10	10	95.7	●² a. p.
Mean	29.2	19.1	97	67.2	6.5	8.6	------	
Total	------	------	------	------	------	------	665.7	

SANTA CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.3	22.6	97	60	7	6	------	☊ a. ⊤ p.
2	34.8	24.1	95	66	7	7	------	☊° a.
3	33.8	23.2	97	79	7	9	------	☊ a.
4	33	23.6	97	69	8	8	3.3	☊² a. p ● ⊤ p.
5	33.2	22.9	96	71	3	7	------	☊ a. p ◪° p.
6	35	22.2	98	70	3	7	------	☊² a.
7	35	23.3	93	85	3	8	1.8	☊ a. d ◟ p.
8	30.1	22.9	98	68	10	9	2.5	d² a. d p.
9	29.9	23.2	96	78	9	10	5.1	d² a. ● p.
10	32.4	22.6	97	68	10	9	------	☊ a. ◪° p.
11	31.8	22.3	97	71	7	10	------	☊² ≡° a.
12	34.5	21.3	98	53	6	5	------	☊² a. ◟° p.
13	32.7	22.2	98	75	7	8	4.3	☊² ⊤ ● a. ◟° d° p.
14	33	23.1	93	77	10	10	3.3	⊤ a. ●° a. p. ◟ p.
15	32.3	22.3	97	64	5	8	1.3	☊ a. ●° ◟° p.
16	30.6	22.9	97	89	8	9	17.3	☊ d² ● a. d p.
17	27.6	22.7	98	89	7	10	14.7	● a. ●° p. .
18	28	22.6	98	89	10	10	36.6	●² a. ● p.
19	31.4	22.6	98	79	10	8	15	d a. ● p.
20	33.4	22.5	98	80	8	10	46.2	d ↙° ◪² ●² p.
21	29.4	22.1	97	81	10	10	8.1	d a. ● p.
22	30.4	23	91	89	10	10	3.8	d a.
23	31.8	22.6	98	83	10	10	4.3	p a. d² p.
24	32.2	22.5	97	96	7	10	6.6	●p.
25	31.4	22.5	98	89	9	10	8.4	≡° d° a. d ● p.
26	32.6	21.2	98	65	7	6	8.1	d² ◪° p.
27	30.9	22.2	97	70	9	10	18.5	● a. p. d p.
28	29.7	22.6	98	73	10	10	4.3	d p.
29	30.5	22.2	98	93	9	10	7.6	d° a. d p.
30	30.6	23.2	98	92	10	10	9.9	● a. d° a. p.
31	27.4	21.6	98	88	10	10	16.8	p a. d ● p.
Mean	31.8	22.6	96.9	77.4	7.9	8.8	------	
Total	------	------	------	------	------	------	247.8	

Meteorological data for third and fourth class stations—Continued.

ANTIPOLO.

[ϕ=14° 36′ N; λ=121° 10′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34	23.2	94	65	9	8	33.8	☊2 a. ☐☌2 ● ☋ ◠ p.
2	33.8	22.4	94	64	5	8	------	◠ ☐☌2 ☋ p.
3	32.4	23.2	91	80	8	9	17	● ☐☌2 p.
4	32	22.8	96	83	8	8	22.9	● a. p. ⊤ p.
5	32.6	22.6	92	70	2	6	20.8	p ⊤ ● p.
6	32.5	22.1	92	62	5	3	------	☐☌ p.
7	32.6	22.8	90	71	2	4	4.3	☊2 a. p ☐☌ p.
8	31	22	93	81	9	9	6.3	☊ a. ●° ⊤ p.
9	29.5	22.6	93	83	10	10	2.8	●° a. p. ⊤ p.
10	32.4	22.3	91	68	10	10	------	☊ a. ⊤ ↘ p.
11	32.8	23.3	93	67	8	10	------	☊ a.
12	33.8	22.4	90	62	4	7	------	☊ a. ⊤ ↘ p.
13	33	22.4	95	72	5	8	18.3	☊ ⊤ a. ◠ ●° ☐☌2 ● p.
14	33.1	23.1	92	68	10	9	.3	☊° a. ⊤ ●° p.
15	34	22.5	96	62	6	8	------	☊ a. ☐☌ p.
16	31.8	22	97	93	8	10	16.5	☐☌2 ● p.
17	28.4	22	98	79	7	9	4.6	d° a. ●° p.
18	29.2	21.9	96	88	10	10	6.3	●° a. p.
19	31.6	22	96	78	10	10	35	●° a. ●2 ⊤ p.
20	32	22	96	74	9	10	17.8	⊤ ● ◠2 p.
21	29.2	23.2	95	84	10	10	12.9	● a. p.
22	29	22.7	95	93	10	10	17.2	☋° ● ⊤ p.
23	30.5	22.8	90	87	10	10	26.2	p° a. ● p.
24	30.7	22.2	92	74	9	7	.5	⊤ p° p.
25	30	22.8	96	84	9	10	.5	p p.
26	31.8	21.3	94	76	6	5	------	⊤ p.
27	30.9	22.2	90	84	8	10	19.8	●° a. ● p.
28	28.1	22.2	98	89	10	10	7.9	●° a. p.
29	28.3	22	96	91	10	10	78.7	● a. ●2 ☋° p.
30	24.6	21.1	97	98	10	10	48.8	● a. p.
31	25.6	21.3	92	97	10	10	175.6	⊤ a. ●2 a. p. ☐☌ ⊕ p.
Mean	31	22.4	93.9	78.3	8	8.6	------	
Total	------	------	------	------	------	------	594.8	

IBA.

[ϕ=15° 20′ N; λ=119° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	24.5	87	73	10	6	------	⊤2 d ↘ p.
2	32.4	24	87	72	9	10	24.6	☊° a. ○° ☐☌2 ● p.
3	31.8	23.5	91	77	5	10	42.9	☐☌2 ●2 p.
4	30.5	23.5	96	78	10	10	1.5	●° a. p. ↘ p.
5	31.7	23.6	94	77	10	10	2	d a. p. ☐☌2 ●° p.
6	31.6	23	93	68	8	8	------	○° ☐☌2 d° p.
7	32.1	22.5	91	71	2	7	9.3	☐☌ ● p.
8	31.9	23	90	78	10	10	22.6	☐☌ ● p.
9	30.7	22.5	97	70	10	10	.5	d° a. p. ↘2 p.
10	31.8	24	84	72	10	10	24.8	○ a. p. ● ☐☌2 p.
11	32.2	23.5	84	84	8	10	8.7	○ a. ● ☐☌ p.
12	32.2	22.5	97	70	3	10	.5	☐☌2 ●° p.
13	32.8	22.5	96	65	4	10	------	○ ⊤ ↘ p.
14	32.6	23.5	95	75	10	10	9.4	☊° a. ● ☐☌2 p.
15	32.3	22.5	96	65	10	7	23.3	⊤ a. ○° ☐☌2 ● p.
16	31.5	22.5	96	72	10	10	21.4	○ a. p. ☐☌2 ● p.
17	32	21.9	97	73	6	10	35.8	⊤° a. ☐☌2 ●2 p.
18	31.5	23	96	73	10	10	3.8	d a. ☐☌ ●° p.
19	33.3	23.8	97	63	10	10	------	↘ a. p.
20	30.7	24.5	84	81	10	10	38.3	d ●° a. ●2 p.
21	26.5	23.1	95	93	10	10	102.4	●2 a. p.
22	28.6	23.5	91	81	10	10	62.6	● a. p.
23	27.1	22.9	96	95	10	10	121.8	●2 a. p.
24	27.5	22.5	98	91	10	10	100.6	●2 ⊤2 a. ● p.
25	29.6	22.3	96	85	10	10	17	●° a. ● p.
26	30.5	22	91	78	10	10	1.1	●° a. ☐☌ d p.
27	32.6	22.6	89	78	10	10	6.9	d a. p. ↘ ●° p.
28	27.4	23.5	92	81	10	10	11.8	●° a. ↘ ● p.
29	30.3	23	95	93	10	10	58.6	●° a. ●2 p.
30	27.9	22.9	97	89	10	10	32.5	● a. p. ☐☌ p.
31	28.1	22.5	88	88	10	10	106.2	☐☌2 ●2 a. p.
Mean	30.8	23.1	92.8	77.7	8.9	9.6	------	
Total	------	------	------	------	------	------	890.9	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.2	23.8	97	46	3	6	------	☊ ≡ a.
2	34.7	23.6	96	56	3	7	------	☊ ≡° a.
3	35.1	23.6	95	48	2	8	36.1	☊ ≡° a. ☐☌ ● p.
4	------	23.8	96	44	3	8	------	☊ a. ↘ p.
5	34.5	23.4	97	86	10	10	20.8	☊ a. ● d ⊤ p.
6	34.4	23.5	95	61	2	4	3.8	☊ ≡° a. ☐☌ ●° p.
7	35.4	22.3	96	55	2	8	67.8	☊ ≡° a. ●2 ☐☌ p.
8	32.2	20.8	96	64	8	10	------	☊ ≡° a. d p.
9	29.3	23.8	97	77	10	10	5.6	☊ ≡ ●° a. d a. p.
10	32.7	23.8	97	55	10	9	------	☊ ≡ a. ⊤ d° p.
11	34.6	23.9	96	63	10	9	------	☊ ≡° a. ⊤ d p.
12	34.8	23.5	97	49	2	10	12.7	☊ ≡ a. ● d ⊤ p.
13	35	22.4	96	50	6	8	------	☊ ≡° a.
14	32.8	22.4	96	70	9	8	4.1	☊ a. ●° p.
15	33.4	22.9	97	51	4	8	3.8	☊ ≡ a. ●° ☐☌ p.
16	34.5	23.2	95	59	2	9	16.5	☊ ≡° a. ● ↘ p.
17	34.3	22.2	98	65	3	8	1.8	☊ ≡ a. d p.
18	30.5	23.9	97	75	10	10	7.4	☊ ≡ a. ● d ⊤ p.
19	30.9	24.4	97	69	10	9	------	☊ ≡ a.
20	32.5	23.8	95	70	8	10	5.8	☊ ≡° a. ●° d p.
21	26	23.8	96	95	10	10	33.1	☊ ≡° a. ● d p.
22	29	23.3	94	80	10	10	11.4	●° d a. p. ⊤ p.
23	28.4	23.1	97	87	10	10	7.3	●° d a. p.
24	29.4	23.2	97	86	10	10	9.1	●° d a. p.
25	30.6	22.8	97	78	10	9	6.4	☊ a. ● ⊤ p.
26	32.2	22.5	97	63	9	4	------	☊ ≡ d° a. d p.
27	31.3	23	98	76	9	10	7.2	☊ ●° d a. ● p.
28	27.4	23.6	95	81	10	10	45	● d a. p.
29	29.2	23.2	98	80	10	10	19.5	●° d a. p.
30	27.2	22.6	97	83	10	10	44.9	● d a. p. ⊤ p.
31	24.6	22.5	97	95	10	10	59.5	● d a. p.
Mean	31.7	23.2	96.4	68.3	7.3	8.8	------	
Total	------	------	------	------	------	------	429.6	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.3	23.5	92	59	10	1	19	●2 ☐☌ p.
2	32.7	23.2	96	66	10	10	------	☊ a.
3	33	23.5	93	74	10	10	51.8	☊ d a. ●2 ☐☌ p.
4	32	24.1	96	74	10	6	.3	● a. ⊤ ↘ a. p. ●° p.
5	32.5	24	96	71	10	2	2.5	☊ a. ⊤ ● ↘ p.
6	33.1	24.2	95	68	10	2	.3	☊ a. ↘ ⊤ ● p.
7	33.3	23.2	95	65	10	1	4.8	↘2 p.
8	29.9	24.2	95	78	10	10	27.9	● a. d a. p.
9	27.8	23.1	96	96	10	10	45.2	☐☌ a. ● a. p.
10	30.7	23.7	97	83	10	10	20.1	● ⊤ ↘ a. p.
11	31.1	24.2	97	76	10	10	5.1	☊2 a. ●° p.
12	32.2	23.8	96	72	10	0	------	☊ a.
13	32.1	22.3	93	74	10	9	4.1	☊ a. d a. p.
14	31.1	24.2	96	75	10	9	6.6	⊤ ↘ ● a. p.
15	29.6	23	95	87	10	10	1	☊ ⊤ ● a. d p.
16	32.2	22.5	95	72	10	10	------	☊ ⊤ a. d ↘ ⊤ p.
17	32.2	22.9	94	72	9	10	24.9	☊ ◠ a. ⊤ ↘ d ● p.
18	32.1	24.2	96	72	10	10	3.8	● a. p.
19	31	24.3	94	86	10	10	73.9	☊ a. ● a. p. ⊤ p.
20	31.6	24.3	97	81	10	10	5.3	☊ a. ● ☋ p.
21	30.5	24.2	96	85	10	10	7.9	☊ d a. ● p.
22	30.7	23.7	94	79	10	10	.3	d a. p.
23	31.2	24	94	78	10	10	------	☊ a. d p.
24	33	23.9	92	65	10	9	------	☊ a. d ☋ p.
25	33.8	23.5	88	57	10	2	------	☋ p.
26	32.9	24.3	86	69	9	2	21.6	d a. p. ⊤ ● ↘ p.
27	29.9	23.8	96	90	10	10	15.2	☊ a. ● a. p. ⊤ ↘ p.
28	26	23.1	97	96	10	10	86.4	●2 a. p. d p.
29	31.3	23.7	97	82	10	10	32.6	d a. ● p.
30	30	23.7	87	79	10	10	.3	d a. p.
31	26.9	23.3	93	85	10	10	25.7	☊ a. ⊤ ● a. p.
Mean	31.3	23.7	94.3	76.3	9.9	7.8	------	
Total	------	------	------	------	------	------	486.6	

Meteorological data for third and fourth class stations—Continued.

SAN FERNANDO, UNION.
[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.8	23.5	89	61	10	2	5.8	☐☒² d² p.
2	33.7	24.8	92	61	6	6	33.8	┬° a. ☐☒² ● p.
3	31.5	22.8	96	64	9	8	18.8	☐☒° ● p.
4	33	24.5	92	63	7	7	2.8	☐☒° d² p.
5	32.4	24	94	66	7	8	21.6	◺° a. ☐☒² ● p.
6	31.4	23	96	69	3	7	18	☐☒° ● p.
7	33	23.4	95	61	1	6	1	☐☒° d² p.
8	30.8	23	94	80	2	9	2	┬° a. p. d² ◺° p.
9	30.2	22.6	91	80	6	10	------	d° a. d p.
10	30.9	24	95	71	9	10	11.9	☊² ┬° a. ☐☒² ● p.
11	32	23	96	66	10	8	5.1	┬° a. ☐☒° d p.
12	32.1	22.7	95	67	3	10	------	┬° a. ◠° d° ☐☒° p.
13	32.4	22.5	93	63	2	7	------	☋² a. ○° ┬° ◺° p.
14	33	23.8	92	63	3	5	------	┬° a. ☐☒° d° p.
15	32.6	24	85	66	10	10	.3	┬° ⊕² a. p. ☐☒° d² p.
16	33.1	24.2	87	62	9	9	3.6	☐☒° a. p. d² p.
17	32.4	22.5	93	64	2	9	2.3	○° a. ☐☒° d² p.
18	32.3	22.7	94	66	9	9	2.8	○ a. p. ┬° d² ◺° p.
19	31.6	23.1	96	68	10	10	------	⊕° a. p. ○° ☐☒° p.
20	30.7	24.3	94	75	8	10	2	⊕° a. ┬° a. p. d² ◺ p.
21	31.4	24.6	88	67	10	10	27.9	d ● p.
22	28.6	23.7	80	79	10	10	.5	d a. p.
23	30.4	24.6	79	71	10	10	17.8	d° a. d² p.
24	29.9	23	85	73	10	9	19.1	p ┬° a. d² a. p.
25	31.8	23	89	68	8	4	6.6	○° a. d² ◺° p.
26	31.6	23.4	89	67	9	9	2.5	⊕° a. p, d² ☐☒° p.
27	30.3	22.3	96	75	9	10	.8	d² ☐☒° p.
28	27.9	25.6	94	90	10	10	2.3	d² a. ☤² p.
29	29.7	23.1	95	80	10	10	71.4	d² a. d ●² p.
30	25.7	22.4	96	94	10	10	111.5	d² a. d ●² p.
31	27.3	22.5	95	86	10	10	132.6	d a. p. ● ☐☒² ◿° p.
Mean	31.2	23.4	91.8	70.5	7.5	8.5	------	
Total	------	------	------	------	------	------	524.8	

ECHAGUE.
[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35	23.2	94	61	8	3	------	◺° p.
2	35.3	23.7	93	52	4	4	------	☊° a. ⊕ ◺° p.
3	35	23.1	91	57	6	6	1	☊° a. ◠ d ◺ p.
4	34.8	24	92	65	3	3	5.1	● a. ◺° p.
5	34.8	23.6	89	57	2	6	------	d° ◺ p.
6	35.3	22.5	90	49	2	2	------	┬° ◺° p.
7	35.7	22.8	91	53	0	6	37.3	☊ a. ┬ ◺° ●² p.
8	30.7	23.4	95	74	9	9	1	☊ a. d° p.
9	28	22.6	94	90	10	10	7.1	●° a. p.
10	29.6	23.1	97	93	9	10	9.2	d° a. p. ┬ ● p.
11	33.1	23.3	97	65	10	8	------	┬ ◺ p.
12	33	22.3	95	63	2	8	------	☊ a. ┬ d° ◺ p.
13	33.8	21.7	91	53	3	4	------	☊ a. ┬ ◺ d° p.
14	32.6	22.8	95	67	8	8	1.3	☊ a. d° ◺ p.
15	32.6	22.7	94	61	7	9	.3	◠° a. ┬° ◺° d° p.
16	33.7	23.3	96	62	9	9	------	☊ a. ┬° ◺° p.
17	33.3	22.5	93	59	6	8	6.4	☊ a. d° ◺ p.
18	31.5	22.8	93	69	9	9	.3	●° a.
19	33.1	23	91	61	9	7	------	○° ⊕ ┬ ◺ ☋ ☋° p.
20	35.3	23.4	95	56	3	5	------	d° p.
21	34.4	23.8	95	51	10	8	------	
22	32.3	24.4	94	59	10	10	------	d° a.
23	35	23.4	84	52	9	9	1.5	d° p p.
24	36.3	23.4	91	49	6	7	------	┬ p.
25	35.1	23.1	97	55	10	8	.8	☰ ☊² a. ○° ┬ d° p.
26	35.7	22.9	95	53	1	8	10.7	☊ a. ● p.
27	31.6	23.1	97	67	4	10	11.9	d° ●° p.
28	27.3	23.1	97	89	9	10	27.7	●° a. d° a. p. ● p.
29	32.2	23.9	96	64	10	8	------	d° ┬ p.
30	30.3	23.8	96	74	10	10	1.5	☰° ☊ a.
31	29.5	22.9	93	63	10	10	15	d° ●° a. ● p.
Mean	33.1	23.1	93.6	62.7	6.7	7.5	------	
Total	------	------	------	------	------	------	138.1	

CANDON.
[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.7	25	91	73	8	5	87.1	☐☒² ●² p.
2	31.8	24.4	89	76	6	7	1.3	┬° p p.
3	30.9	24.5	91	70	8	4	------	d ◠² p.
4	30.9	24.5	89	76	3	4	------	☊² a. ◠² ☐☒° d p.
5	31.5	24.5	88	75	7	4	47.8	☊ a. ● ☐☒° p.
6	30.5	24.4	92	77	3	4	1.3	☊ a. ┬ p p.
7	30.9	24.2	88	72	5	7	1.5	☊ a. ┬° ◠° ●° p.
8	31.4	24.2	89	69	5	7	1	☊ a. ┬° p p.
9	30	24.2	91	78	8	10	------	d p.
10	30.8	24.2	88	78	10	9	5.6	☊ a. ☐☒° p p.
11	31.4	24	91	73	8	7	9.9	☊ a. ☐☒ ● p.
12	30.8	24	89	66	4	9	------	☊ a.
13	30.9	24	83	68	2	5	------	☊ a. ┬° p.
14	31.9	24	84	70	3	9	3	☊ a. p ☐☒° p.
15	31	23.6	83	62	10	10	------	☊ a. ┬° ◺ p.
16	31.9	25.5	93	67	10	8	27.9	☊ a. ☐☒ ● p.
17	31	24	80	66	2	8	1	☊ a. p ◺ p.
18	31.4	24.5	91	75	4	8	6.6	☊ a. p ☐☒ p.
19	31.4	24.2	83	71	10	9	------	☊ a. ☋ p.
20	31.3	26.7	86	73	8	9	7.6	●° ☐☒° ◠ p.
21	31.3	25.4	89	67	10	10	9.1	●° p.
22	30	25.2	86	68	10	10	------	d a. p.
23	30.9	25.8	84	66	10	10	2	
24	30.5	25.2	84	71	10	8	------	p a. d p.
25	30.2	24.5	83	71	7	8	31.7	☊ a. ┬° ● p.
26	28.9	24.5	88	81	7	10	7.3	┬ p p.
27	30.2	24	87	76	5	9	1.5	☊ a. d ◺ p p.
28	28.9	24	92	82	10	10	63	p a. ●² p.
29	28.9	25.5	88	78	10	9	49	d a. ☐☒° ●² p.
30	29.4	24.5	88	70	10	10	48.5	d a. ●² p.
31	27.4	24	89	83	10	10	235.2	●² a. p. ☐☒° p.
Mean	30.6	24.6	87.6	72.5	7.2	8	------	
Total	------	------	------	------	------	------	648.9	

LAOAG.
[ϕ=18° 12′ N; λ=120° 35′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.7	25	93	56	3	4	36.6	● p.
2	32.8	23.1	86	64	5	6	------	◠ p.
3	33.9	24.8	92	64	2	5	7.4	☐☒ ● p.
4	33	24.4	90	68	0	6	2.5	●° p.
5	32.7	25	94	72	0	8	41.4	┬ p.
6	32.5	24	93	67	0	4	------	┬ ● p.
7	32.8	24.5	88	64	1	5	16.5	☐☒ ● p.
8	32.5	23.9	96	74	3	9	4.3	d° ● ☐☒ p.
9	32.5	23.2	94	69	8	10	------	☊ d° a. d p.
10	33.5	25.2	89	66	10	9	1.8	☊ a. ┬ ●° p.
11	32.8	24.9	96	74	9	9	50.8	☊ ☰° a ┬ ●² p.
12	32	22.7	94	73	8	9	42.2	☊ ☰° ○ a. ┬ ●² p.
13	32.1	22.5	93	67	8	5	------	┬ d° ◺ p.
14	32.8	24.1	94	66	6	8	.5	☊° a. ┬ ●° ◠ p.
15	32.6	23.6	95	79	4	10	17	● ◺ p.
16	32.3	23.2	95	68	3	6	.1	┬ a. p. d ◺ p.
17	32.6	23	97	70	3	8	.6	☊° ☰ a. ●° ┬° d ◺ p.
18	32.9	23.6	94	67	8	8	1.5	●° ◡° p.
19	34.2	23.4	96	58	8	9	------	☊° ☰° a. ○° ◺° ☊ p.
20	33	24.7	93	70	10	10	------	☊ ○ a. ◺ ◡° p.
21	32.9	25.5	93	73	10	10	8.4	☊° a. ○° a. p. ● p.
22	31.9	24.6	92	67	10	10	.4	d° ●° a. d ◺° p.
23	31.3	25	89	67	10	10	.5	d ◺° p.
24	32.5	25	89	66	10	8	------	┬ a. d ○° ◺° p.
25	32.7	24.2	92	64	8	7	2.5	┬ ●° p.
26	32.8	23.7	96	62	8	9	1.8	d° a. p. ┬ ●° ◺° p.
27	32.2	23.1	97	72	4	8	------	☊° ☰ a. ┬° ◺° p.
28	33.4	25	92	72	9	10	------	d p.
29	31.5	25.3	93	84	8	10	44.4	┬ ●² ◺ p.
30	30.5	23.6	95	76	10	10	50.8	d ●ª a. p.
31	25.6	23	97	94	10	10	257.8	●² a. p.
Mean	32.4	24.1	93.1	69.5	6.3	8.1	------	
Total	------	------	------	------	------	------	589.8	

Meteorological data for third and fourth class stations—Continued.

SANTO DOMINGO.
[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	24.4	94	-----	2	6	------	Ω² a. ☋° ⌐◪² d° p.
2	32.5	25.4	91	-----	7	5	------	
3	33.7	25.6	98	-----	5	8	0.5	d° p.
4	32.1	25.4	92	-----	5	4	------	●° d° a.
5	33.4	26.4	91	-----	6	4	------	⟆ p.
6	33.5	26.8	91	-----	4	4	------	⟆° Ω² p.
7	33.4	23.6	94	-----	3	4	------	Ω² a. p. ⟆° p.
8	33.5	23.6	96	-----	1	6	------	Ω² a. p.
9	33.8	25.5	92	-----	6	3	5.9	p° ●° p.
10	32.6	24.9	94	-----	7	5	2.3	●° ⊤° a. d° p.
11	33	26	93	-----	6	7	------	v a. d° ⟆° p.
12	31.3	24.8	93	-----	10	9	1.5	⊤° d° ●° a. ⟆ Ω° p.
13	33.1	24.4	93	-----	5	6	------	◠ a. p. d° p.
14	33.5	26.3	94	-----	5	3	.4	●° p.
15	32.8	25.9	92	-----	4	6	.7	d ⟆ p.
16	32	24.2	92	-----	2	7	------	⊤ ⟆² p.
17	33.9	24.9	95	-----	4	4	------	d° ◠ ⟆° p.
18	33.4	24.4	94	-----	4	5	5.1	● ⟆ p.
19	31.9	24.4	92	-----	4	5	4.4	v a. ●° d° p.
20	33.3	25.1	94	-----	5	8	4.8	d a. p. ●° ⟆° Ω p.
21	31.5	24.5	94	-----	6	10	12.5	◠ p° a. ●° a. p.
22	31.4	23.9	91	-----	9	9	1.8	●° d° a. ⟆² ⊤ p.
23	34	23.6	93	-----	10	8	2.5	●° a. p. d° Ω° p.
24	32.6	24	93	-----	10	6	11.9	●° a. Ω° p.
25	32.8	24	93	-----	1	10	6.9	v a. ● a. p. d° p.
26	31.9	24.1	95	-----	4	5	9.8	d a. p. ↙° ● ⟆° p.
27	32.6	25.6	89	-----	3	6	------	d° a. p. ☋ Ω° p.
28	32.6	25.4	86	-----	7	6	------	
29	32.9	25.3	89	-----	3	9	23.9	d° a. ● a. p. pp.
30	31.4	24.9	90	-----	8	7	42.2	⊤° a. d ● a. p.
31	27.8	22.3	90	-----	10	10	80.3	● a. ●² ⟆² ⊤ ↙° p.
Mean	32.6	24.8	92.5	-----	5.4	6.3	------	
Total	------	------	-----	-----	-----	-----	217.4	

SEISMOLOGICAL BULLETIN FOR JULY, 1912.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

2, $8^h\ 10^m$ [2, $16^h\ 10^m$]. **Laoag** (NW of Luzon). Earthquake of intensity II.

4, $0^h\ 12^m$ [4, $8^h\ 12^m$]. **Talacogon** (Agusan, E of Mindanao). Trepidatory and oscillatory earthquake of intensity IV and long duration.

4, $12^h\ 6^m\ 55^s$* [4, $20^h\ 6^m\ 55^s$]. **Central Luzon.** Earthquake of force IV–V, felt throughout that part of the island which comprises the provinces of Nueva Ecija, Tarlac, Pangasinan, Union, Nueva Vizcaya, and the subprovinces Benguet and Lepanto. Its epicenter lay in southern Benguet and northern Pangasinan, the nearest station being Baguio. The seismographs of the latter station had already several hours earlier, namely at $5^h\ 38^m$, $5^h\ 46^m$, and $6^h\ 44^m$ [$13^h\ 38^m$, $13^h\ 46^m$, and $14^h\ 44^m$] registered three light shocks of local character which we may regard as forerunners or *foreshocks.* Of these only the second was sufficiently strong to be perceptible at the Mountain Capital and registered likewise by the Manila microseismographs. The record traced at Baguio by the principal shock, at $12^h\ 6^m\ 56^s$, is remarkable for the great amplitude of the vertical component. This circumstance as well as the occurrence there of foreshocks, lead to the conclusion that the center of disturbance cannot have been at a great distance from the station mentioned. With a great degree of probability we may assume that it lay in the region of Mount Santo Tomas, the Bued River, and the eastern tributaries of the latter, where other earthquakes of considerable force are known to have originated which likewise shook the provinces enumerated. The area of the latter is about 200 kilometers from north to south, and 150 kilometers from east to west.

6, $12^h\ 18^m$ [6, $20^h\ 18^m$]. **Talacogon** (Agusan, E of Mindanao). Earthquake of intensity III.

6, $16^h\ 22^m\ 25^s$* [7, $0^h\ 22^m\ 25^s$]. **Agusan Valley** (E of Mindanao). Earthquake of intensity IV–V, felt throughout the northern portion of the valley. Its epicenter lay a short distance southeast of Butuan.

7, $10^h\ 2^m\ 30^s$* [7, $18^h\ 2^m\ 30^s$]. **Agusan Valley.** Earthquake of intensity V, perceptible within the same region as the preceding and apparently having the same center or origin. A notable seismic activity continues to manifest itself in various parts of the geological fracture which runs through the Agusan Valley from north to south. Owing to the fact that the earthquakes of the 6th and 7th have all originated much further south than the great earthquake of last May, they can only in a remote sense be con-

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in Greenwich mean time (Midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

sidered as repetitions or aftershocks of the same. This is especially true of the one at Talacogon.

7, 15h 55m [7, 23h 55m]. **Nueva Caceres** (SE of Luzon). Oscillatory earthquake. Direction N–S, intensity II–III, duration 3 seconds.

8, 16h 39m 47s* [9, 0h 39m 47s]. **Northern Luzon.** Earthquake of intensity V in the northernmost part of Luzon Island and felt toward south as far as the 17th parallel, over a land area of 200 kilometers in the direction east to west, and of 170 kilometers from north to south. Its epicenter must have been very close to the northern coast of the island and in the neighborhood of the prolongation of a N–S line running through the Central Cordillera of Luzon. Although the meizoseismic area comprised part of the sea and the small islands known as the Babuyanes group, it is not likely that the disturbance was of much greater intensity there than on the northern extremity of Luzon, since it was not felt on the Batanes Islands, at a distance of only 200 kilometers. This earthquake was registered by every seismograph in China and Japan.

9, 3h 0m [9, 11h 0m]. **Sarangani** (S of Mindanao). Earthquake of intensity III.

9, 10h 7m [9, 19h 37m]. **Guam** (Mariana Islands). Earthquake of intensity III, duration short.

10, 2h 14m [10, 11h 44m]. **Guam** (Mariana Islands). Earthquake of intensity IV–V, lasting between 10 and 15 seconds.

10, 7h 5m [10, 15h 5m]. **Surigao** (NE of Mindanao). Oscillatory earthquake. Direction NE–SW, intensity II–III.

12, 2h 0m [12, 10h 0m]. **Romblon Island.** Oscillatory earthquake. Direction SSE–NNW, intensity II–III, duration 2 seconds.

14, 5h 20m [14, 13h 20m]. **Sarangani** (S of Mindanao). Earthquake of intensity III.

15, 16h 24m [16, 0h 24m]. **Nueva Caceres** (SE of Luzon). Oscillatory earthquake. Direction NNE–SSW, intensity II–III, duration 6 seconds.

17, 16h 12m [18, 0h 12m]. **Tacloban** (NE of Leyte). Oscillatory earthquake. Direction ESE–WNW, intensity III, duration 3 seconds.

17, 23h 2m 55s* [18, 7h 2m 55s]. **Calapan** (NE of Mindoro). Oscillatory earthquake. Direction ESE–WNW, intensity III, duration 10 seconds.

20, 8h 46m [20, 16h 46m]. **Talacogon** (Agusan, E of Mindanao). Earthquake of intensity IV–V and long duration. Its epicenter lay without doubt either in the southern part of the Agusan Valley itself or, perhaps, nearer to the eastern coast of the island, since the disturbance was not felt at Butuan, in the north of the valley, at a distance of less than 50 kilometers.

20, 22h 15m 55s* [21, 6h 15m 55s]. **Laoag** (NW of Luzon). Oscillatory earthquake. Direction WNW–ESE, intensity III, duration 4 seconds.

22, 5h 20m [22, 13h 20m]. **Agusan Valley** (E of Mindanao). Earthquake of intensity V and long duration, having its epicenter in the central region of the valley. At Talacogon it was of force V and long duration and even at Butuan, some 50 kilometers to the north, it conserved still intensity IV and lasted 40 seconds.

At 16h 42m [0, 42h of the 23d] the same region was shaken by a second quake of somewhat smaller intensity (IV–V) and shorter duration (20 seconds at Butuan). Both shocks must have been well perceptible within the valley over an area measuring more than 150 kilometers in the direction north to south.

29, 12h 0m [29, 20h 0m]. **Sarangani** (S of Mindanao). Earthquake of intensity II–III.

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Mean Greenwich. Midnight=0 h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T_o=7, ϵ=3.6; A_E: T_o=7, ϵ=3. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
156	3	I_r	e	10 55 00				
			F	11 16				
157	4	I_v	eP	5 46 06				Central Luzon.
			F	50				
158	4	II_v	iP	12 06 56				Central Luzon.
			L	07 15				
			M_E	07 17	1-2		833	
			F	49				
159	6	I_v	eP	16 22 25				Agusan Valley.
			F	44				
160	7	II_u	eP	8 09 34				Alaska.
			eS	19 09				
			eL	28 54				
			M_N	51 21				
			F	10 20				
161	8	II_v	eP	16 39 47				Northern Luzon.
			L	40 53				
			M_E	41 37	3-4		989	
			F	17 06				
162	9	I_r	e	8 35 12				
			F	57				
163	10	I_d	eP	16 41 23				
			L	41 36				
			F	44				
164	10	I_r	e	18 25 11				
			F	42				
165	11	I_r	eP	17 00 59				Horizontal Pendulums.
			eL	03 11				
			M_E	04 52				
			F	19				
166	13	I_r	e	14 39 38				
			F	52				
167	17	I_r	e	12 30 17				
			F	13 07				
168	17	II_v	eP	23 02 55				Calapan (NE of Mindoro)-Maximum and end lost by pens being thrown off through force of shock.
			L	03 13				
169	17	I_d	eP	23 22 30				
			L	22 47				
			M_E	22 53	3		21	
			F	26				
170	17	I_d	eP	23 43 35				
			L	43 49				
			M_E	43 51	2	25		
			F	47				
171	18	I_d	eP	0 05 07				
			L	05 25				
			M_E	05 29	2-3		57	
172	18	I_d	eP	0 20 56				
			L	21 14				
			M_E	21 18	2-3		39	
			F	24				
173	18	I_d	eP	2 33 20				
			L	33 37				
			F	36				
174	19	I_d	eP	1 04 08				
			F	07				
175	20	I_v	eP	22 15 55				Laoag (NW of Luzon).
			L	16 50				
			F	20				
176	24	II_r	e	12 10 42				
			F	54				

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A_N μ	A_E μ	
				h. *m.* *s.*				
177	24	I_d	eP	14 12 45				
			F	15				
178	24	I_r	e	23 25 00				
			F	48				
179	25–26	I_r	eP	23 14 52				
			iS	19 09				
			L	23 27				
			M_N	25 12	10–11	17		
			F	0 17				
180	26	I_r	eP	2 34 00				
			L	40 11				
			M_N	41 48	12	5		
			F	3 51				
181	26	I_r	e	7 47 10				
			F	8 31				
182	29	I_d	eP	3 19 48				
			L	20 03				
			F	22				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

2, $8^h\ 10^m$ [2, $16^h\ 10^m$]. **Laoag** (NW de Luzón). Temblor de tierra de intensidad II.

4, $0^h\ 12^m$ [4, $8^h\ 12^m$]. **Talacogon** (Agusan, E de Mindanao). Temblor susultorio y oscilatorio de intensidad IV, y de larga duración.

4, $12^h\ 6^m\ 56^s$ * [4, $20^h\ 6^m\ 56^s$]. **Centro de Luzón.** Temblor de tierra de intensidad IV–V, sentido en toda la parte de Luzón comprendida por las provincias Nueva Ecija, Tarlac, Pangasinan, Unión, Nueva Vizcaya, y las subprovincias de Benguet y Lepanto. Su epicentro se hallaba en la parte sur de Benguet y norte de Pangasinán; siendo la estación de Baguio la más próxima. Los seismógrafos de dicha estación habían ya registrado horas antes, a $5^h\ 38^m$, $5^h\ 46^m$, y $6^h\ 44^m$ [$13^h\ 38^m$, $13^h\ 46$, y $14^h\ 44^m$] tres temblorcitos locales que podemos considerar como precursores o *foreshocks*. De éstos solo el segundo fué allí perceptible y registrado también por los seismógrafos de Manila. El temblor principal que tuvo lugar a $12^h\ 6^m\ 56^s$, se distinguió en Baguio por la mucha amplitud de la componente vertical; tanto esta circunstancia como la de haberse sentido allí otras sacudidas precursoras hacen suponer que el origen no podía estar muy lejos de la mencionada estación. Con mucha probabilidad puede situarse en la región del monte Santo Tomás, rio Bued, y sus afluentes del este, donde se han originado otros terremotos principales sentidos en el territorio ocupado por las provincias arriba mencionadas, el cual se extiende unos 200 kilómetros de N a S, y 150 de E a W.

6, $12^h\ 18^m$ [6, $20^h\ 18^m$]. **Talacogon** (Agusan, E de Mindanao). Temblor de tierra de intensidad III.

6, $16^h\ 22^m\ 25^s$* [7, $0^h\ 22^m\ 25^s$]. **Valle del Agusan** (E de Mindanao). Temblor de tierra de intensidad IV–V, sentido en toda la parte norte del valle. Su epicentro se hallaba a poca distancia al SE de Butuan.

7, $10^h\ 2^m\ 30^s$* [7, $18^h\ 2^m\ 30^s$]. **Valle del Agusan.** Temblor de tierra de intensidad V, sentido en la misma región que el precedente y originado al parecer en el mismo epicentro. La actividad seísmica en el valle del Agusan continua siendo notable en diferentes sitios de la fractura geológica que lo atraviesa de N a S. Los temblores del 6 y 7 solo remotamente pueden considerarse como repeticiones o aftershocks del gran terremoto de Mayo último, por haberse originado todos, principalmente el de Talacogon, mucho más al S.

7, $15^h\ 55^m$ [7, $23^h\ 55^m$]. **Nueva Cáceres** (SE de Luzón). Temblor oscilatorio. Dirección N–S, intensidad II–III, duración 3 segundos.

8, $16^h\ 39^m\ 47^s$* [9, $0^h\ 39^m\ 47^s$]. **Norte de Luzón.** Temblor de tierra de intensidad V en el extremo N de la Isla de Luzón, y sentido hacia el S hasta el paralelo 17°; lo cual representa una extensión de 200 kilómetros de E a W, y 170 kilómetros de N a S. Su epicentro debió hallarse muy cerca de las costas septentrionales de la isla y hacia el meridiano o línea correspondiente a la Cordillera Central. Aunque su área meizoseísmica comprendía el mar y las pequeñas islas Babuyanes, no parece sin embargo probable que tuviese allí mucha mayor intensidad que en el extremo N de Luzón, puesto que no fué perceptible en las Islas Batanes, que distan solamente unos 200 kilómetros. Este temblor fué registrado por todos los seismógrafos de China y de Japón.

9, $3^h\ 0^m$ [9, $11^h\ 0^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III.

9, $10^h\ 7^m$ [9, $19^h\ 37^m$]. **Guam** (Islas Marianas). Temblor de tierra de intensidad III, duración corta.

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[1] La intensidad de los terremotos se indica conforme a la conocida escala de De Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

10, 2^h 14^m [10, 11^h 44^m]. **Guam** (Islas Marianas). Temblor de tierra de intensidad IV–V, duración de 10 a 15 segundos.

10, 7^h 5^m [10, 15^h 5^m]. **Surigao** (NE de Mindanao). Temblor oscilatorio. Dirección NE–SW, intensidad II–III.

12, 2^h 0^m [12, 10^h 0^m]. **Isla Romblon.** Temblor oscilatorio. Dirección SSE–NNW, intensidad II–III, duración 2 segundos.

14, 5^h 20^m [14, 13^h 20^m]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III.

15, 16^h 24^m [16, 0^h 24^m]. **Nueva Cáceres** (SE de Luzón). Temblor oscilatorio. Dirección NNE–SSW, intensidad II–III, duración 6 segundos.

17, 16^h 12^m [18, 0^h 12^m]. **Tacloban** (NE de Leyte). Temblor oscilatorio. Dirección ESE–WNW, intensidad III, duración 3 segundos.

17, 23^h 2^m 55^s* [18, 7^h 2^m 55^s]. **Calapan** (NE de Mindoro). Temblor oscilatorio. Dirección ESE–WNW, intensidad III, duración 10 segundos.

20, 8^h 46^m [20, 16^h 46^m]. **Talacogon** (Agusan, E de Mindanao). Temblor de tierra de intensidad IV–V y de larga duración. Su epicentro se hallaba sin duda en la parte S del valle del rio Agusan o tal vez hacia la costa oriental de la isla, puesto que no se sintió en Butuan, distante menos de 50 kilómetros hacia el N del valle.

20, 22^h 15^m 55^s* [21, 6^h 15^m 55^s]. **Laoag** (NW de Luzón). Temblor oscilatorio. Dirección WNW–ESE, intensidad III, duración 4 segundos.

22, 5^h 20^m [22, 13^h 20^m]. **Valle del Agusan** (E de Mindanao). Temblor de tierra de intensidad V y larga duración. Su epicentro se hallaba hacia el centro del valle. Sintióse con intensidad V y larga duración en Talacogon, mientras que en Butuan, a unos 50 kilómetros al N, tuvo aún intensidad IV y 40 segundos de duración.

A 16^h 42^m [0^h 42^m del 23] se sintió en la misma región un segundo temblor de tierra de alguna menor intensidad (IV–V) y de más corta duración (20 segundos en Butuan). Ambos debieron ser bien perceptibles dentro del valle en una extensión de N a S de más de 150 kilómetros.

29, 12^h 0^m [29, 20^h 0^m]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad II–III.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

BULLETIN FOR AUGUST, 1912.

METEOROLOGICAL BULLETIN FOR AUGUST, 1912.

By Rev. JOSÉ CORONAS, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure for August of this year exceeded the same value for the preceding year at all the stations of the Weather Bureau; but especially at those of northern Luzon. The barometric maxima occurred everywhere on the 7th, while the minima took place on the 27th or 28th on Luzon, and on the 27th or 31st in the Visayas and Mindanao. As regards Manila, although the mean pressure surpassed that of August, 1911, by 0.47 millimeters, it, nevertheless, remained 0.69 below the normal value for the month.

The mean temperature resulted slightly higher than for August of the preceding year in northern Luzon, being equal to the same or slightly lower for the rest of the Archipelago. At Manila, the temperature extremes were 32.5° C and 22.7° C, recorded on the 3rd and 5th respectively.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS FOR AUGUST, 1912.

Station.	Pressure.						Temperature.					
	Mean.	Departure from August, 1911.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from August 1911.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	757.77	+0.40	759.14	7	755.86	31	27.5		34.9	2		
Surigao	57.42	+ .38	58.88	7	55.17	31	27.9	0	33.6	27	22.4	9
Cebu	57.40	+ .36	58.86	7	55.15	27	27.3	−0.1	32.9	2	22.9	8
Iloilo	57.42	+ .09	59.08	7	55.23	27	26.7	+ .1	30.5	8	21.5	2
Ormoc	57.72	+ .48	59.26	7	55.36	31	27	+ .1	31.7	29	22	8
Tacloban	57.16	+ .36	58.88	7	54.61	31	27.5	— .3	34.5	28	23.3	10,11,12
Capiz	57.21	+ .30	58.91	7	54.64	27	26.6	— .2	34.5	25	22	6,11
Calbayog	57.03	+ .33	58.77	7	54.54	31	27.3	— .5	32.2	5,6,7	23.2	10
Legaspi	56.60	+ .50	58.52	7	53.52	27	26.6	— .6	33.7	23	21.1	10
Atimonan	56.21	+ .47	58.61	7	53.04	28	26.7	— .9	33.4	18	22.4	7
Paracale	56.22	+ .65	58.70	7	52.80	27	27.1	— .9	34.8	17	23	10
Manila	56.65	+ .47	58.96	7	53.31	27	26.4	— .4	32.5	3	22.7	5
San Isidro	56.61	+ .58	59,06	7	52.99	28	26.3	— .1	33.8	16	22.2	5
Dagupan	56.06	+ .42	58.56	7	52.36	28	26.8	+ .1	34.4	21	23.1	1,5
Bolinao	55.69		58.52	7	52	28	26.4		32.5	14,23	23.2	2,4,31
Baguio[a]	634.26	+ .55	636.48	7	631.15	28	17.8	+ .7	24.8	5	14.9	11
Vigan	755.73	+ .75	758.58	7	751.80	28	26.6	+ .4	31.6	20	21.8	1
Tuguegarao	55.55	+1.30	58.28	7	50.60	28	27.3	+ .1	36.8	15, 18, 23	22	12
Aparri	55.16	+1.41	57.97	7	49.96	28	27	+ .3	33.4	18,23	22.9	11

[a] The barometric readings of this station are not reduced to sea level.

Precipitation.—The following table shows that by far the greater number of our stations report for August a total amount of rainfall in excess of both, the actual rainfall during the same month of 1911 and the normal precipitation for August. The amount of 656.6 millimeters collected in the rain gauges of Manila Observatory, surpasses the normal quantity by 297.4 millimeters and the total for the same month of the preceding year by 237.2 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF AUGUST, 1912.

Station.	Total.	Departure from August, 1911.	Departure from normal.	Rainy days.	Departure from August, 1911.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from August, 1911.	Departure from normal.	Rainy days.	Departure from August, 1911.	Greatest rainfall in a single day.	Day.
	mm.	mm.	mm.			mm.			mm	mm.	mm.			mm.	
Isabela, Basilan	96.5	− 116.1		14	0	17.3	15	Sumay, Guam	516.8	+ 16.4		26	+ 2	88.9	26
Zamboanga	39.6	− 36.3	− 51.3	4	− 5	14.7	22	Calapan	169.1	+ 94.8?		20		74.4	31
Davao	188.9	+ 50.5	− 12.6	9	+ 3	50.8	5	Virac	139	+ 54.5		24	+ 13	58.4	20
Cotabato	245.2			18		56.6	5	Nueva Caceres	194.2	+ 87.7	+ 45	21	+ 11	37.1	10
Cagayan, Misamis	212.6			13		50.8	5	Batangas	390.1	+ 244		18	+ 6	66.3	12
Dapitan	136.9			12		32.8	2	Atimonan	212.4	+ 176.3	+ 54.7	18	+ 10	40.6	10
Butuan	114.5	+ 67.6	+ 25.1	15	+ 7	31.2	2	Silang	629.4	+ 371		19	+ 5	108.2	25
Dumaguete	72.9	+ 26.3		12	+ 3	28.2	6	Paracale	221.1	+ 128.9		21	+ 14	42.1	23
Yap, W. Carolines	391.1	+ 33.7		20	0	81	9	Sta. Cruz, Laguna	378.7			22		76.2	31
Tagbilaran	250.8	+ 242.7	+ 129.8	7	+ 3	57.4	16	Manila	656.6	+ 237.2	+297.4	29	+ 4	75.9	10
Surigao	78.6	− 63.6	− 13.5	16	+ 6	23.4	22	Antipolo	648.4	+ 22.1		28	+ 3	57.7	1
Maasin	375.8	+ 253.4	+ 171.6	14	+ 9	65.8	11	Iba	1,360.2	+ 675.3		27	0	207.5	27
Cebu	228.8	+172.9?	+ 78.3	16		60.5	8	San Isidro	513.6	+ 302.8	+229.5	25	0	77.2	1
Iloilo	535.7	+ 300.4	+ 218.5	24	+ 4	131.1	13	Tarlac	448.2	+ 233	+110.5	27	+ 5	65.8	1
San Jose Buenavista	719.9	+ 198.3		29	+ 7	63.7	17	Baler	262.5	+ 184.1		22	+ 9	64.8	8
Cuyo	558.5	+ 166.5		26	+ 6	79.8	13	Dagupan	541.3	− 41.9	+100.6	28	+ 2	129	31
Ormoc	343.2	+ 278	+ 64.1	20	+ 7	96.5	4	Bolinao	788.2		+262.4	30		150.8	30
Guiuan	181.2	+ 130.1		12	+ 5	66.2	21	Baguio	1,297.2	−1,224.5	+270.4	31	+ 3	307.5	30
Tacloban	182.9	+ 143.7		15	+ 6	48.2	22	San Fernando, Union	1,046.9	+ 53.7	+377.4	30	+ 4	128.6	30
Capiz	225.3	+112.3?	− 45.6	19		70.6	21	Echagüe	349.4	+ 219.7		22		52.9	11
Borongan	125.9	+ 86.6	+ 10.6	19	+ 12	26.2	20	Candon	1,009.7			30		354.6	1
Calbayog	232.2	+ 83.5	+ 35.5	23	+ 12	45.8	21	Vigan	978.5	− 804.3	+371.3	26	+ 1	316	1
Masbate	234.3	+ 138.2		24	+ 11	62	7	Tuguegarao	207.4	− 424.1	+ 19.6	11	− 5	46.7	1
Romblon	109.4	+ 38.8		17	+ 1	16.5	12	Laoag	619	− 542.9?		23		202.2	1
Laoang	92.7			16		18.3	19	Aparri	204.7	− 296.2	− 34.9	14	− 6	60.1	1
Gubat	161.2	+ 102.5		15	+ 10	57.1	31	Sto. Domingo, Batanes	152.6	− 363.8		15	− 6	46.2	1
Legaspi	315.7	+ 170.1	+ 140.6	23	+ 8	48.8	10								

DEPRESSIONS AND TYPHOONS.

During the month, the Observatory had occasion to announce the existence of various depressions or typhoons of which, however, not a single one crossed the Philippines. One of these atmospheric disturbances was of such intensity and extraordinary dimensions that during the last days of the month it influenced nearly the entire Archipelago to a marked degree, though it was then at a distance of more than 600 miles.

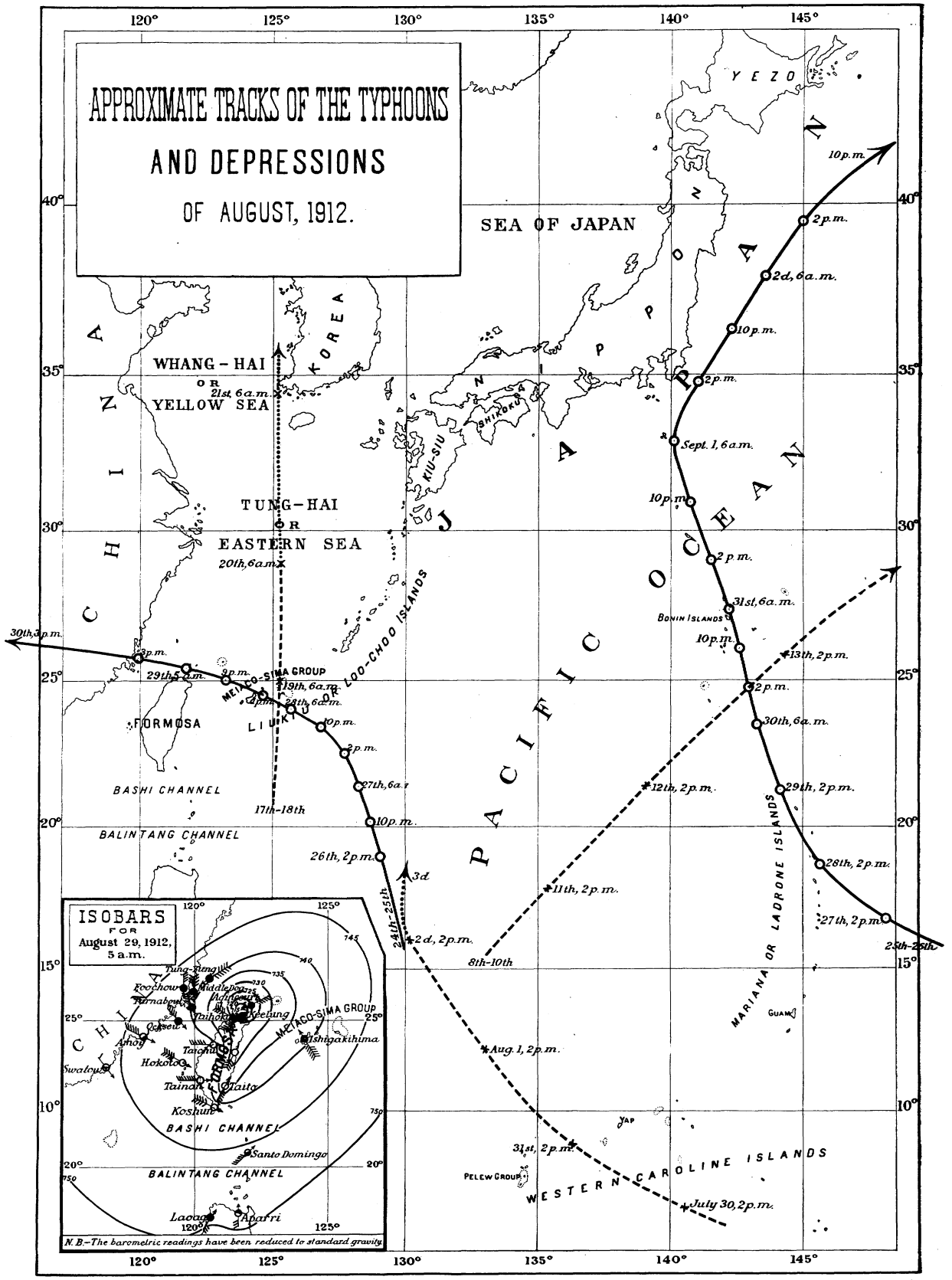
The depression or typhoon of July 30 to August 3, 1912.—As suggested by the title, we are uncertain whether or not this atmospheric disturbance ever acquired the full development of a typhoon. It appeared on July 30 to the southeast of Yap, between parallels 11° and 12° N; passed on the 31st between Yap and the Pelew Islands on a northwesterly course; and was announced by Manila Observatory on August 2 as lying then east of Luzon at a distance of more than 300 miles. During the afternoon of that day the disturbance probably took a northerly and possibly even north-northeasterly direction. During the period from August 4 to 7 the state of the atmosphere over the entire extent of the Pacific Ocean between the Loochoos Islands, Japan, and the Bonin group was so complicated as to render it impossible to trace the path of this phenomenon with sufficient probability beyond August 3rd.

The depression of August 8 to 13, 1912.—We are likewise unable to decide whether this disturbance was a real typhoon or merely a depression. Its probable track shown on Plate II has been deduced from our daily weather maps for the said period, supplemented later by the observations of Yap and Guam. According to these data the disturbance moved toward northeast and passed south of the Bonin Islands in the morning of the 13th.

The depression of August 17 to 20, 1912.—This was undoubtedly a depression of small importance which appears to have formed from the 17th to 18th, to the east of Bashi Channel, in the neighborhood of meridian 125° E, and moved northward in the direction of the Eastern Sea and Yellow Sea which latter it reached on August 21.

The typhoon of northern Formosa, August 25 to 30, 1912.—The first reliable indications

Plate II.


APPROXIMATE TRACKS OF THE TYPHOONS AND DEPRESSIONS OF AUGUST, 1912.
SEA OF JAPAN
YEZO
KOREA
WHANG-HAI OR YELLOW SEA
TUNG-HAI OR EASTERN SEA
CHINA
JAPAN
PACIFIC OCEAN
KIU-SIU
SHIKOKU
LOO-CHOO ISLANDS
MEIACO-SIMA GROUP
FORMOSA
LIUKIU
BASHI CHANNEL
BALINTANG CHANNEL
BONIN ISLANDS
MARIANA OR LADRONE ISLANDS
GUAM
YAP
PELEW GROUP
WESTERN CAROLINE ISLANDS
10p.m.
2p.m.
2d, 6a.m.
Sept. 1, 6a.m.
31st, 6a.m.
30th, 6a.m.
29th, 2p.m.
28th, 2p.m.
27th, 2p.m.
25th-26th
13th, 2p.m.
12th, 2p.m.
11th, 2p.m.
8th-10th
Aug. 1, 2p.m.
July 30, 2p.m.
31st, 2p.m.
26th, 2p.m.
24th-25th
21st, 6a.m.
20th, 6a.m.
19th, 6a.m.
17th-18th
30th, 3p.m.
29th, 2p.m.
27th, 6a.m.
ISOBARS FOR August 29, 1912, 5 a.m.
Tung-Kung
Foochow
Kiirunboo
Amoy
Swatow
Hokoto
Tainan
Koshun
Santo Domingo
Aparri
Laoag
Taito
Keelung
Ishigakihima
N.B.—The barometric readings have been reduced to standard gravity

of the existence of this typhoon became clear on the 25th on which day the Observatory issued the following weather note:

August 25, 3 p. m.: There are signs of a depression or typhoon over the Pacific east of northern Luzon. Its actual direction cannot yet be ascertained, although it seems to be moving northward.

That the direction was guessed correctly may be seen in the chart giving the storm tracks for August. The typhoon moved nearly due north until the 27th, when it began to incline in a very stricking way toward west. This change in direction was announced at 11.30 of the 28th in the following note:

The typhoon of the Pacific has changed its direction since yesterday and is moving to-day west, threatening Formosa: its center is situated this morning over the Meiacosima group of Islands.

At Ishigakijima (Meiacosima) the barometric minimum was 723.3 millimeters, observed at 2.50 p. m. of the 28th, with hurricane winds from west-southwest which reached a velocity of 50.8 meters per second (182.9 kilometers or 113.6 miles per hour) at 3 p. m.

From Meiacosima, the storm continued on an almost due west course, passing very close to the northern coast of Formosa during the night of August 28 to 29. The following barometric minima (fully corrected, except for variation of gravity with latitude) have been observed in Formosa and its vicinity:

Agincourt (122° 8′ E; 25° 37′ N): 709.8 millimeters, at 1 a. m. of the 29th.

Keelung (121° 45′ E; 25° 9′ N): 714.1 millimeters, at 3.20 a. m. of the 29th.

Taihoku (121° 31′ E; 25° 2′ N): 726.5 millimeters, at 3.45 a. m. of the 29th.

During the afternoon of the 29th, the vortex entered the continent south of, and very close to Foochow where the barometer fell to 733.23 millimeters at 3 p. m. and the winds veered from northwest to east-northeast.

We are greatly indebted to Mr. H. Kondo, director of the Central Observatory of Taihoku, Formosa, for valuable observations, isobars, and barographic curves concerning this typhoon which he had the goodness to send us soon after the storm. From his letter we copy the following data regarding the destruction caused by the typhoon:

The typhoon was one of the most severe, causing great damage in northern Formosa, the official statistics of the destructive effects being as follows:

Persons killed	70
Persons injured	41
Houses ruined	6,731
Houses partly ruined	6,259
Houses damaged	7,621

Telegraph lines, bridges, railways, etc., were likewise greatly damaged.

At Keelung, the winds from northwest reached their highest velocity of 50.7 meters per second at 12 midnight of the 28th. At Agincourt the velocity of the winds must have been the same or even greater, but exact figures cannot be given since the hurricane carried away the anemometer of that station.

The following storm warnings have been sent by Manila Observatory to the various meteorological centers in the Far East in connection with this typhoon:

August 25, 3 p. m.: Typhoon east of northern Luzon, more than 300 miles distant; direction unknown.

August 26, 11.15 a. m.: Typhoon east of Balintang Channel; moving north.

August 27, 3.23 p. m.: Typhoon south of Naha; moving north.

August 28, 11 a. m.: Typhoon over or near Meiacosima; moving west.

August 29, 11 a. m.: Typhoon near or over the northern part of Formosa Channel; moving west or west-northwest.

Hongkong Observatory favored us with the following notices:

August 26, 12.05 p. m.: Typhoon east of Balintang Channel; moving north.
August 27, 3.20 p. m.: Typhoon south of Loochoos Islands; moving north.
August 28, 11.40 a. m.: Typhoon east of Formosa; moving north-northwest.
August 29, 10.10 a. m.: Typhoon northeast of Formosa; moving northwest.
August 29, 3.10 p. m.: Typhoon on mainland near Foochow; moving west.

The stations along the China coast were kept informed of the movements of the storm by means of the following warnings issued by Zikawei Observatory:

August 25, 2 p. m.: Typhoon in lat. 15° to 20°; long. 135° to 140°; moving west-northwest.
August 25, 9 p. m.: Typhoon in lat. 15° to 20°; long. 130° to 135°; moving west-northwest.
August 26, noon: Typhoon in lat. 20° to 23°; long. 125° to 130°; moving northwest.
August 26, 9 p. m.: Typhoon southeast of Meiacosima; moving northwest.
August 27, 9 p. m.: Typhoon between Naha and Ishigakijima; moving northwest.
August 28, 11.10 a. m.: Typhoon in center of Meiacosima group; moving northwest.
August 29, 8.15 a. m.: Typhoon northeast of Formosa; moving northwest.
August 29, noon: Typhoon north of Formosa Channel; moving northwest.
August 29, 9 p. m.: Typhoon off Okseu; moving west.

The typhoon of the Mariana and Bonin Islands, August 25 to September 2, 1912.—This typhoon was likewise of great intensity, if we may judge from the observations made at Guam and still more so by those of Chichijima, Bonin Islands, where the barometer fell to 725 millimeters at 6 a. m. of the 31st. The disturbance appeared to the east-northeast of Guam from the 25th to the 26th; on the 28th it crossed the northern part of the Mariana group on a NbyW course; passed over the Bonin Islands during the early hours of the 31st; and recurved toward northeast on September 1 after having approached closely to the southeastern coast of Japan.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes es para todas las estaciones mayor que la del año pasado, particularmente en la parte norte de Luzón. Las presiones mayores se observaron en todas partes el día 7, y las menores el 27 ó 28 en Luzón, y el 27 ó 31 en Visayas y Mindanao. La media mensual de Manila, aunque supera a la del año pasado en 0.47 mm., pero es menor que la normal de Agosto en 0.69 mm.

La temperatura media mensual es algo mayor que la de Agosto 1911 en el norte de Luzón, y casi idéntica a la misma o ligeramente inferior en el resto del Archipiélago. Los valores extremos para Manila fueron 32.5 °C y 22.7 °C registrados los días 3 y 5 respectivamente.

Precipitación acuosa.—Como puede verse en la tabla de lluvia que acompaña el texto inglés, una gran mayoría de nuestras estaciones nos dan una suma total de lluvia para este mes mayor que la del año pasado y mayor también que la normal de Agosto. La cantidad de agua recogida en los pluviómetros de Manila ha sido 656.6 mm.: se diferencia de la normal en +297.4 mm., y del total de Agosto, 1911, en +237.2 mm.

DEPRESIONES Y TIFONES.

Varias depresiones y tifones ha anunciado este mes el Observatorio, si bien ni uno solo ha atrevesado las Filipinas. Sin embargo, uno de ellos fué de tanta intensidad y de tan extraordinarias dimensiones que, a pesar de hallarse los últimos días del mes a una distancia de Luzón de más de 600 millas, influía de una manera bastante considerable en casi todo el Archipiélago.

Depresión o tifón de 30 de Julio a 3 de Agosto.—No nos consta si esta perturbación atmosférica llegó nunca a adquirir el desarrollo de un verdadero tifón. Apareció el día 30 de Julio hacia el SE de Yap entre los paralelos 11° y 12°N, pasó el 31 entre Yap y las islas Palaos moviéndose al NW, y el día 2 de Agosto lo anunciaba el Observatorio como situado al E de Luzón y a una distancia de más de 300 millas. Probablemente se movió desde la tarde del día 2 hacia el N y aun tal vez al NNE. El estado de la atmósfera en la extensión del Pacífico comprendida entre Japón, las Islas Loochoos y las Islas Bonin aparece tan complicado en los días 4 a 7 de Agosto que no nos es posible continuar con suficiente probabilidad la trayectoria de esta depresión más allá del día 3.

Depresión o tifón del 8 al 13 de Agosto.—Tampoco nos consta si fué este un verdadero tifón o sólo una depresión. La trayectoria probable que damos de esta perturbación atmosférica desde el 8 al 13 de Agosto (véase la lámina II) la hemos deducido de nuestros mapas diarios del tiempo de aquellos días completados posteriormente con las observaciones de Yap y Guam. Según esta trayectoria, se movió la depresión al NE viniendo a pasar por el sur de Bonin la mañana del día 13.

Depresión de 17 a 20 de Agosto.—Se trata aquí evidentemente de una depresión de poca importancia, la cual formada, según parece, del 17 al 18 al E del canal de Bashi y no lejos del meridiano 125° E, se movió al N en dirección al Mar del Este y al Mar Amarillo a donde llegó el día 21.

El tifón del norte de Formosa: 25 a 30 de Agosto.—Los primeros indicios ciertos de este tifón los tuvo el Observatorio el día 25 en que se dijo lo siguiente en la nota del tiempo dada a 3 p. m.

> Hay indicios de una depresión o tifón en el Pacífico al E del norte de Luzón. No se puede aún precisar su actual dirección, aunque parece moverse hacia el norte.

Y en efecto, según puede verse en el mapa de trayectorias de este mes, el tifón se

movió casi al norte hasta el día 27 en que empezó a inclinarse de una manera muy notable hacia el W. Este cambio de dirección se anunció a 11.30 a. m. del 28 en estos términos:

El tifón del Pacífico ha cambiado su dirección desde ayer y se mueve hoy al W amenazando Formosa: su centro se halla esta mañana en el grupo de islas de Meiacosima.

La mínima barométrica en Ishigakijima (Meiacosima) fué 723.3 mm., observada a 2.50 p. m. del 28 con vientos huracanados del WSW que alcanzaron la velocidad de 50.8 metros por segundo a 3 p. m. de dicho día.

Desde Meiacosima siguió el tifón moviéndose casi al W, pasando muy cerca de la costa norte de Formosa durante la noche del 28 al 29. Véanse a continuación las mínimas barométricas (no corregidas por gravedad) observadas en el norte de la isla de Formosa y sus alrededores:

Agincourt (122° 08′ long. E, 25° 37′ lat. N) 709.8 mm. a 1 a. m. del 29.
Keelung (121° 45′ long. E, 25° 09′ lat. N) 714.1 mm. a 3.20 a. m. del 29.
Taihoku (121° 31′ long. E, 25° 02′ lat. N) 726.5 mm. a 3.45 a. m. del 29.

El vórtice penetró en el Continente por el sur y muy cerca de Foochow la tarde del 29. El barómetro de Foochow había bajado a 733.23 mm. a 3 p. m. del 29, habiendo rolado los vientos del NW al ENE.

Al Director del Observatorio de Taihoku, Formosa, Mr. H. Kondo, agradecemos las valiosas observaciones, isobaras y curvas barográficas referentes a este tifón que tuvo la bondad de remitirnos con mucha oportunidad. De la carta de dicho Mr. Kondo copiamos aquí los siguientes datos sobre los efectos destructores de este tifón.

El tifón ha sido uno de los más intensos causando grandes daños en el norte de Formosa. Las estadísticas oficiales de sus efectos destructores son como siguen:

Personas muertas	70
Personas heridas	41
Casas enteramente destruídas	6,731
Casas parcialmente destruídas	6,259
Casas con desperfectos	7,621

Además, las líneas telégraficas, puentes, vías férreas etc. sufrieron también grandes perjuicios.

En Keelung los vientos del NW alcanzaron la máxima velocidad de 50.7 metros por segundo a las 12 mn. del 28. Igual o mayor hubo de ser la máxima velocidad de los vientos en Agincourt: pero nos vemos privados de este dato por haber sido llevado por el huracán el anemómetro de aquella estación.

Damos a continuación los avisos de tifón trasmitidos por este Observatorio a los demás Observatorios del Extremo Oriente:

Día 25, 3 p. m.: Tifón al E de la parte norte de Luzón, distancia mayor de 300 millas, dirección desconocida.
Día 26, 11.15 a. m.: Tifón al E del canal de Balintang, moviéndose al N.
Día 27, 3.23 p. m.: Tifón al S de Naha, moviéndose al N.
Día 28, 11 a. m.: Tifón en, o cerca de, Meiacosima, moviéndose al W.
Día 29, 11 a. m.: Tifón en, o cerca de, la parte norte del canal de Formosa, moviéndose al W o WNW.

Del Observatorio de Hongkong recibimos los siguientes telegramas referentes al mismo tifón:

Día 26, 12.05 p. m.: Tifón al E del canal de Balintang, moviéndose al N.
Día 27, 3.20 p. m.: Tifón al S de las Islas Loochoos, moviéndose al N.
Día 28, 11.40 a. m.: Tifón al E de Formosa, moviéndose al NNW.
Día 29, 10.10 a. m.: Tifón al NE de Formosa, moviéndose al NW.
Día 29, 3.10 p. m.: Tifón en el Continente cerca de Foochow, moviéndose al W.

El Observatorio de Zikawei envió también estos avisos de tifón a las estaciones de la costa de China:

Día 25, 2 p. m.: Tifón entre 15° y 20° lat. y entre 135° y 140° long., moviéndose al WNW.
Día 25, 9 p. m.: Tifón entre 15° y 20° lat. y entre 130° y 135° long., moviéndose al WNW.
Día 26, 12 md.: Tifón entre 20° y 23° lat. y entre 125° y 130° long., moviéndose al NW.
Día 26, 9 p. m.: Tifón al SE de Meiacosima, moviéndose al NW.
Día 27, 9 p. m.: Tifón entre Naha e Ishigakijima, moviéndose al NW.
Día 28, 11.10 a. m.: Tifón en Meiacosima, moviéndose al NW.
Día 29, 8.15 a. m.: Tifón al NE de Formosa, moviéndose al NW.
Día 29, 12 md.: Tifón norte del canal de Formosa, moviéndose al NW.
Día 29, 9 p. m.: Tifón en frente de Okseu, moviéndose al W.

El tifón de las Islas Marianas y Bonin: 25 de Agosto a 2 de Septiembre.—Este tifón fué también de mucha intensidad según se puede deducir de las observaciones de Guam, y más aun por las de Chichijima (Islas Bonin) en donde el barómetro había bajado a 725 mm. a 6 a. m. del día 31. El tifón apareció hacia el ENE de Guam del 25 al 26; el 28 atravesó la parte septentrional de las Islas Marianas moviéndose al N $\frac{1}{4}$ NW; pasó por encima de las Islas Bonin en las primeras horas del día 31; y recurvó al NE el 1.° de Septiembre cuando se hallaba ya cerca de la costa sudeste de Japón.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[a]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Day.	Pressure (mean).	Air temperature.[b] Mean.	Maximum.	Minimum.	Underground temperature. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity (mean).	Vapor pressure (mean).	Evaporation.[b] Free exposure (total).	Shelter (total).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	*Per ct.*	*mm.*	*mm.*	*mm.*
1	755.19	25	27.9	23.3	25.9	26.2	26.9	27	30	29.7	93.5	21.9	0	0.9
2	56.83	25.1	27.9	23.5	25.8	26.2	26.5	26.8	29.8	29.6	92.1	21.8	.6	.9
3	57.69	25.9	32.5	23.8	26.5	27.5	26.9	27.5	29.7	29.6	89	22	1.9	1.7
4	57.86	25.8	30.2	23.6	27	27.3	27.5	27.6	29.3	29.4	86.9	21.5	1.8	1.5
5	57.50	27.2	32.1	22.7	27.5	28.4	27.9	27.9	29.4	29.7	79.2	21.1	4.1	3.2
6	58.66	27.3	31.4	23.9	27.8	28.9	28.3	28.4	29.3	29.6	80.2	21.5	3.5	2.5
7	58.96	26.7	31.6	23.6	28.4	29	28.8	28.9	29.3	29.5	83.9	21.7	2.9	2.2
8	58.04	26.9	31.5	23.4	28.4	29.2	28.9	28.9	29.2	29.5	83	21.7	2.9	2.3
9	57.38	26.3	31.9	23.7	28.6	29.6	29.1	29.3	29.3	29.5	87.3	22	1.7	1.9
10	57.80	25.8	30.9	23.9	28.2	28.5	28.9	29	29.2	29.4	88.3	21.7	1.6	1.6
11	57.25	26.2	30.8	23.4	28.1	28.9	28.9	29.1	29.2	29.4	85.5	21.5	2.2	1.9
12	56.06	25.7	30.1	23.7	28.3	28.9	29	29	29.1	29.4	88.3	21.6	1.6	1.5
13	55.28	25.3	27.2	23.2	28.2	28.3	29	29.1	29	29.3	90.3	21.6	2.6	3.1
14	56.42	26.5	30.2	24.2	28	28.6	28.9	29.1	29	29.4	86.4	22.2	1.2	1.8
15	57.81	26.6	30.9	23.4	27.5	28.7	29	29	29.2	29.4	84.4	21.8	2.6	1.9
16	57.86	27	31.7	24	28.5	29.3	29	29	29.2	29.3	84.6	22.3	2.9	2.2
17	57.23	27	31.4	25	28.8	29.5	29.3	29.4	29.2	29.3	86.9	22.9	2.6	1.9
18	56.86	27.2	32	24.4	28.9	29.7	29.4	29.6	29.2	29.2	85.2	22.6	2.9	2.3
19	56.78	27.4	32.1	24.5	29.3	30.6	29.6	29.9	29.1	29.3	83.1	22.3	3.4	2.6
20	57.20	27.5	31.5	24.7	29.5	30.4	29.9	30	29.2	29.3	85	23.1	3.2	2.4
21	57.36	26.9	31.2	24	29.5	29.6	30	29.9	29.2	29.2	86.8	22.8	2.2	1.9
22	57.41	27.2	31.7	24.7	29.4	30.1	29.9	30	29.2	29.2	84.4	22.5	3.1	2.6
23	56.54	27.3	31.4	24.2	29.5	30.2	30	30.2	29.3	29.3	82.5	22.2	3.4	2.8
24	57.31	26.7	30.2	24.7	29.5	30	30.1	30.3	29.3	29.2	84.9	22	3.4	2.8
25	56.82	26.3	30.3	24.1	29.1	29.7	30.1	30.1	29.3	29.2	86.1	21.8	.9	2
26	54.75	25.7	29.7	24	28.7	28.9	29.9	29.7	29.3	29.3	88.5	21.7	.6	1.2
27	53.31	26.2	30.7	23.6	28.2	28.9	29.2	29.3	29.3	29.3	87.8	22.1	1	2.1
28	53.42	26.1	29.1	24.3	28.5	28.6	29.2	29.3	29.3	29.2	89.7	22.5	.3	1.6
29	54.78	26.5	29.7	24.5	27.7	28.1	28.8	28.9	29.3	29.1	87.2	22.3	1	2
30	55.59	26.6	29.8	24	27.5	27.7	28.5	28.6	29.3	29.1	88.1	22.7	1.2	2.3
31	54.05	26	28.8	24.2	27.7	27.7	28.4	28.5	29.3	29.2	89.5	22.3	.3	1
Mean	756.65	26.4	30.6	23.9	28.2	28.8	28.9	29	29.3	29.4	86.4	22.1	2.1	2
Total													63.6	62.6
Departure from normal	—0.69	—0.7	—0.1	+0.2							+1.4	—0.3		

Day.	Wind. Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Sunshine.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	*Km.*		*0–10.*			*h.* *m.*	*mm.*	
1	S quad.	363.5	41	SW by S	10		N. SW quad.	0 00	75.7	⌐☓² a. ● a. p. ↙ ⊤ p.
2	S quad.	252.5	19.5	S	10	A.-Cu. W	Cu.-N. WSW	0 00	43.8	● a. p.
3	SW quad.	192	26.5	WSW	8.6	A.-Cu. E	Cu. WSW	5 25	18.4	p° a. ● p.
4	SW quad.	142.5	25	WSW	9.7	Ci.-S.	Cu. SW	0 40	.3	d a.
5	SW quad.	245.5	27	WSW	4.3	Ci.-S. NE	Cu. SW	10 25	17.5	↖ ●² p.
6	SW quad.	259	26	WSW	5.8	A.-Cu.	Cu. WNW	6 45		
7	SW quad.	124.5	16	WSW, WNW	7.1	A.-Cu. W	Cu. W	5 45	17.5	⌐☓° ↖ ● p.
8	W quad.	154	27	WSW	8.9	Ci.-S.	Cu. NNW	6 15	.5	⌐☓° d p.
9	SW quad.	125.5	18	SW	8.2	Ci.-S.	Cu.-N. E	5 10	69.9	p° a. ⌐☓° ↖ ●² p.
10	SW quad.	242.5	26.5	SW	10	Ci.-S.	Cu.-N. NW	1 40	75.9	● a. p. ●² p.
11	W quad.	306.5	31	SW by W	6.7	Ci.-S. NE	Cu. WSW	7 15	9.2	● a. p. ⊕ p.
12	SW quad.	229.5	21	SW	10		Cu.-N. WNW	1 55	17.2	● a. p. ↖ p.
13	SW quad.	333.5	31	WSW	10	Ci.-S.	Fr.-N. WSW	0 00	10.9	● a. d p.
14	SW quad.	414.5	29	WSW	9.9	A.-Cu.	Cu.-N. WSW	0 35	24.2	d a. ● p.
15	SW quad.	221.5	22	WSW	10	Ci.-S.	Cu. W	2 55	2.1	● a. ●° p.
16	SW quad.	239.5	25	SW	8.2	A.-Cu. NNW	Cu. W	3 55		○ a. d° p.
17	W quad.	298	31	WSW	7.8	Ci.-S. N	Cu.-N. NW, SE	3 40	.3	d a.
18	SW quad.	241	25	SW by W	7.2	Ci.-S. SE	Cu.-N. WSW	6 35	.2	d a.
19	SW quad.	257	26.5	WSW	5.1	Ci.-S. ENE	Cu. W	8 15	1.8	● a. ⌒ p.
20	SW quad.	319	29	SW by W	6.4	A.-Cu. NW	Cu. W	8 10	9.2	● ⌒ a. ⊤° ↖ p.
21	SW quad.	170	17	SW	8.8	Ci.-S.	Cu. SE	3 50	70.1	●² a.
22	SW quad.	242.5	30	SW by W	7.4	A.-Cu. SW	Cu. W	6 20	3.6	● a.
23	SW quad.	375	32	WSW	9.1	Ci.-S.	Cu. WSW	7 40	8.9	● a.
24	SW	527.5	31.5	WSW	9.4	Ci.-S.	S.-Cu. WSW	1 30	3.1	● a. d° a. p.
25	W quad.	460	41	SW by W	9.8	Ci.-S.	Fr.-N. W	1 30	13.1	● a. p. ↙° p.
26	SW quad.	466	35	SW by W	9.7	Ci.-S.	N. W	1 45	31.2	● a. p.
27	SW quad.	417	29	SW	9.8	A.-Cu.	Cu.-N., N. WSW	1 40	11.8	● a. p. ↙° p.
28	SW	591.5	42	SW	9.7	Ci.-S.	Fr.-N. SW	0 35	33	● a. p.
29	SW	683.5	46	SW by W	10		Cu.-N. SW	0 15	24.7	● a. p. ↙° p.
30	SW quad.	624.5	37	SW by W	10	A.-Cu.	Cu.-N. WSW	0 00	38.8	↙ a. ● a. p.
31	W quad.	528	42	WSW	10	Ci.-S.	Cu.-N. WSW	0 00	23.7	⊤ ↙ a. ● a. p.
Mean		324.1	29.2		8.6			3 34		
Total								110 25	656.6	
Departure from normal		+32.1			+0.8			—33 11	+297.4	

[a] All the mean values given in this table are deduced from hourly observations.
[b] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[a]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 26.2 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.63	27.6	31.1	------	85	S quad.	2.2	9	Ci.-S.	Cu. SE	-------	
2	58.17	28.3	34.9	------	84.7	W, SW	.7	8.7	Ci.-S.	Cu. NW	-------	
3	59.02	26.8	30.7	------	87.5	SSW, W	.8	10	Ci.-S.	Fr.-Cu. SW	-------	
4	58.72	26.6	32	------	83.2	SW, SSW	.7	9.3	Ci.-S.	Cu. S, SSW	-------	
5	57.89	27.1	32	------	79.8	S	1.2	5	Ci.-S.	Fr.-Cu. SW	-------	
6	58.69	26.8	32.5	------	80.3	SW, S	.7	4.3	Ci.	Cu. NW	-------	d° p.
7	59.14	26.6	33.7	------	82.2	S	.7	8.3	Ci.-S.	Cu. E	-------	┴c d° p.
8	58.43	26.2	30.7	------	86.8	S	1	9.5	Ci.-S.	Variable	27.7	d° a. ◟° ●2 p.
9	57.81	26.2	31.6	------	85	Variable	1	8.5	Ci.-S.	Cu. SSW	-------	d° ◟° p.
10	58.28	27.4	32.3	------	80.5	S	1.3	5.3	Ci.-S., Ci.	Cu. SW	-------	
11	58.14	27.9	33.2	------	78.3	SW quad.	1.7	3.8	Ci.	Cu. SSW	-------	d° p.
12	57.62	27.9	32.6	------	75	SW quad.	2.3	4.8	Ci.-S.	Cu. SW quad.	-------	⌒2 a.
13	57.24	28.8	32.7	------	70	W	2.8	4.5	Ci.	Cu. SW quad.	-------	
14	57.68	28.9	33.7	------	70	SW	1.5	5	Ci., Ci.-S.	Cu. SW quad.	-------	◟° p.
15	57.94	28.5	33.7	------	76.8	SW, S	.7	3	Ci.	Cu., Fr.-Cu. S	-------	
16	58.05	27	33.7	------	82.2	S	.7	4	Ci.	Cu. SSW	57.4	d° ●2 p.
17	57.61	26.9	32.6	------	80.3	S	1	5.3	Ci. SE	Cu.	53.1	●2 p.
18	57.53	26.6	30.9	------	84.2	S quad.	.8	8	Ci.-S.	Cu. SW quad.	-------	
19	57.41	27.3	32.5	------	79.3	SSW, W	.8	4.3	Ci.-S., Ci.	Cu.	-------	
20	57.74	27.6	33.2	------	78.5	SSW, S	.8	6.2	Ci.-S.	Cu. SW quad.	35.8	●2 p.
21	58.35	26.8	29.4	------	79.8	S	.8	9.2	Ci.-S.	Cu. S quad.	-------	⊽2 p.
22	58.41	27.2	31.4	------	78.8	SW quad.	2.5	8.7	Ci.-S.	Cu. E, WSW	43.8	d° a.
23	57.84	26.2	30.2	------	81	S	1.3	9.8	Ci.-S.	Cu. SW	31	●2 a.
24	58.19	27.4	32.2	------	79.2	S	1	9.3	Ci.-S.	Cu.	-------	● a. ⊽2 p.
25	57.90	28	32.3	------	77	SSW, S	1.7	8	Ci.-S.	Cu.	-------	∪2 ⊽2 p.
26	56.74	28.2	31.8	------	75.3	SW quad.	2.7	7.3	Ci.-S.	Cu. SW quad.	2	d° p.
27	55.94	28.1	31.4	------	73.8	S	3.3	9.8	Ci.-S.	Cu., Fr.-N. W	-------	●° a. ⊽2 p.
28	56.06	28.6	32.6	------	71	S	3.2	6.5	Ci.-S.	Cu.	-------	
29	57.30	28.2	31.9	------	75.7	S	2.5	5.3	Ci., Ci.-S.	Cu. WSW	-------	
30	57.50	28.3	32.9	------	76.5	S	1.7	9.2	Ci.-S.	Cu. W	-------	∪° p.
31	55.86	28.2	33.3	------	76.8	S	1	8.7	Ci.-S., A.-Cu. W	Cu. W	-------	
Mean	757.77	27.5	32.2	------	79.2	----------	1.5	7.1	----------	----------	-------	
Total	-------	------	------	------	------	----------	-------	-------	----------	----------	250:8	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied,—1.86 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.24	28.3	31.6	25.5	69.8	SW quad.	1.2	8.5	A.-Cu.	Cu.-N. WSW	-------	
2	57.62	28.1	31.9	25.4	74	SSW	.8	8.3	Ci.-S.	Cu.-N. WSW	3.8	d p.
3	58.86	26.6	29	24.3	83.5	SW	.3	9.8	Ci.	Cu.-N.	3.3	d a.
4	58.39	26.8	30.5	24	80.8	SW quad.	.8	5.8	Ci.-S.	Cu. WSW	8.9	● a. ◟° p.
5	57.71	27.4	31.7	23.7	80	SW quad.	.7	3	Ci.	Cu.-N. WSW	.5	d a. ◟° p.
6	58.58	27.5	31.8	24.1	77.2	SW	.8	2.7	Variable	Cu.-N.	-------	
7	58.88	27.5	32.6	24.2	80.2	SW	.8	6.8	Ci.-S.	Cu.-N.	5	● ┌⊼° ◟° p.
8	58.09	26.2	29.9	23.6	83.2	SW quad.	.8	6.8	Ci.-S.	Cu.-N.	9.2	d a.
9	57.66	26.3	30.5	22.4	83.8	SW quad.	1	5.2	Ci.	Cu. SW	.8	● a. p° p.
10	57.89	27.4	30.5	24	79.7	SW quad.	1.2	7.5	Ci.-S.	Cu.-N., Cu.	.3	d a. ◟° p.
11	57.45	28.6	32	26.5	72.5	SW	1.7	2.2	Ci.	Cu.-N. WSW	-------	
12	57.06	28.4	31.5	27	72	SW quad.	2	4.2	Ci., A.-Cu.	Cu.-N. WSW	-------	◟° p.
13	56.96	29.4	33.5	27	67.5	SW	1.5	1.8	Ci.-S.	Cu.	-------	◟° p.
14	57.41	29	33.4	25.2	68.7	SW	1.2	1.8	Ci.-S.	Cu.	-------	◟° p.
15	57.98	28.3	32.8	24.5	76.5	Variable	.5	1	Ci.-S., Ci.	Cu.	-------	◟° p.
16	57.98	27.9	33.2	23.5	77.7	SW quad.	.8	1.2	A.-Cu.	Cu.	-------	┌⊼◟° ◟ p.
17	57.34	27.6	32.1	24.1	81.5	W quad.	.8	3.2	Ci.	Cu.-N. WSW	11.5	d ●° a. ◟° p.
18	57.43	26.6	30.4	24	86.8	SW quad.	1	7.7	A.-Cu., Ci.	Variable	.3	● d a.
19	57.41	27	31.4	23.4	80	SW	.8	3.5	Ci.	Cu.-N. WSW	2.8	●° a. d ●° p.
20	57.50	27.5	31.6	24.4	78.8	SW quad.	.7	6	Ci.	Variable	-------	◟° ⊽ p.
21	58.23	26.6	28.5	24.5	83.5	SW quad.	.8	9	Ci.-S.	Cu.-N.	6.7	d a. ⊽ p.
22	58.26	26.8	31.4	23.6	83.8	SW	1	7.8	Ci.-S.	Cu.-N. W	23.4	●° a. ● p.
23	57.47	26.4	30.3	24	84.3	SW quad.	1.2	9.3	Ci.-S.	Cu.-N., N.	1.8	d a. ◟° ⊽ p.
24	57.52	27.2	29.5	25	76.7	SW	1.5	9.3	A.-Cu.	Variable	.3	●° d° a. ⊽ p.
25	56.99	28.5	31	26.9	70.3	SW	1.8	7.3	Ci.-S.	S.-Cu.	-------	⊽ p.
26	56.03	29.1	32.5	27.1	67.8	SW quad.	2	6.5	Ci.-S.	Cu.	-------	∪ p.
27	55.68	29.4	33.6	27	71	SW quad.	1.7	4.5	Ci.-S.	Cu.-N. WSW	-------	◟° p.
28	55.51	29.5	32.9	27.4	66.7	SW	2	1	Ci.	Cu.	-------	
29	56.84	29	32.5	26	71.8	SW	1.3	3.2	Ci.	Cu., Cu.-N.	-------	⊽ ◟° p.
30	56.74	29.1	33.5	26	65.5	SSW	1.8	5	Ci.-S.	Cu.	-------	
31	55.17	29.4	32.9	27.5	65.7	SW	2	7.8	Ci.-S.	Cu.-N. W	-------	○ ⊽ p.
Mean	757.42	27.9	31.6	25	76.2	----------	1.2	5.4	----------	----------	-------	
Total	-------	------	------	------	------	----------	-------	-------	----------	----------	78.6	

[a] All the mean values given in these tables are deduced from six daily observations.

Meteorological data for first and second class stations—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	757.32	27.2	30.6	23.2	76.3	SW	0.5	7	Ci.-S., A.-Cu.	S.-Cu. W, WSW	-------	Ω a. p.
2	57.78	28.3	32.9	24.5	68.2	Variable	.5	6.8	Ci.-S.	S.-Cu. WSW	-------	Ω ℧ a. ∪ p.
3	58.77	26.6	29.5	24.9	78	SW	.7	8.3	Ci.-S.	Variable WSW	5.1	Ω ∪° a. ● p.
4	58.37	27.3	30.9	24.5	75	SSW, SW	.5	7.3	A.-Cu.	N.-cf. WSW	-------	⌐◹ p.
5	57.69	27.6	31	24.2	75.7	SW quad.	.7	4	Ci.	Cu. SW	-------	Ω² a. d ⌐◹ p.
6	58.65	26.6	31.2	24	79.8	Variable	.7	5.3	Ci.	Cu. W	3.8	Ω² a. ⌐◹ a. p. ● p.
7	58.86	26.9	31.9	23.5	79.8	SSW, SW	.3	6.5	Ci.	cu.,Cu.-N. W,WNW	4.8	Ω² ◟° a. ⌐◹ ● p.
8	58.17	25.6	30.2	22.9	86.3	S	.2	8.5	Ci.-S.	Cu.-N. W	60.5	●° a. ⌐◹ a. p. ●² p.
9	57.64	25.8	30.1	23.2	86.3	SW	.2	7.7	Ci.-S.	Cu., Cu.-N. wsw	15.5	● a. p. ⌐◹ p.
10	57.91	26.4	30.6	24	80.5	SW	.3	7.2	Ci.-S., A-Cu.	Cu.-N. W, WSW	8.1	⌐◹ a. p. ● p.
11	57.64	26.6	31	24.5	82	SW	.5	5.2	Ci.	Cu., Cu.-N. W quad.	23.9	Ω a. ● ⌐◹ p.
12	57.05	27.5	31.2	24	74.2	SW	.8	5.5	Ci.-S.	Cu. SW	-------	Ω² a. ⌐◹° p.
13	56.79	27.8	30.8	24.5	73.3	SW	1.2	6	Ci.-S.	Cu. WSW, SW	-------	Ω a. ⌐◹ p.
14	57.42	27.5	30.7	25.2	77.2	SSW, SW	.7	6.3	Ci.-S.	Cu., Cu.-N. SW	-------	Ω ◯ a.
15	57.90	27.9	31.6	24.6	76.5	SSW	.5	4.5	Ci., Ci.-S.	Cu. SW	-------	Ω a. p. ⌐◹ p.
16	57.88	27.9	32.8	24.3	78.3	SSW	.3	4.5	Ci.	Cu., Cu.-N. SW	4.5	Ω² a. ●° ⌐◹ p.
17	57.37	27	31.7	23.9	84.2	SSW	.7	6.3	Ci.	Cu., Cu.-N. SW	12.4	● a. p. ⌐◹ p.
18	57.31	26.5	31.9	23.5	82.5	SSW, S	.3	8.3	Ci.-S.	Cu.-N. WSW	37.6	●° a. ●² d ⌐◹ p.
19	57.26	26.9	30.5	23.8	81.3	SW, W	.3	6	Ci.-S.	Cu. WSW	.8	⌐◹ a. p. ●° p.
20	57.41	27.1	31	23.4	79.5	SW, SSW	.3	5	Ci.	Cu. WSW	47.5	Ω a. ●² ⌐◹ p.
21	57.99	26.6	29	24	82.3	SW, SSW	.3	7.5	Ci.-S.	Cu.-N. WSW	2	●° a. ◟ a. p.
22	58	26.7	30.5	24.5	83.2	SW	.3	7.5	Ci.-S.	Cu.-N. WSW	1.8	Ω a. ●° d ⌐◹ p.
23	57.40	26.6	29	24	79.2	SW	.7	7.7	Ci.-S.	Cu. W	-------	d a. Ω ∪ p.
24	57.74	27.2	30.8	24.5	75.3	SW	.8	7.7	Ci.-S.	Cu., S.-Cu. WSW	-------	Ω ◯ a. ∪ p.
25	57.29	28.1	32	25.6	68.5	SW	.8	7.2	Ci.-S.	Cu. W, WSW	-------	Ω a. ∪ p.
26	56.18	28.1	30.9	25.5	71.3	SW, W	1.2	6.2	Ci.-S.	Cu. W	.5	Ω ◯ a. ●° ∪ p.
27	55.15	28.5	31	26.1	67.5	SW	2	5.8	Ci.-S. E	Cu. W, SW	-------	Ω a. ℧ a. p.
28	55.44	28.7	31.4	26.3	68.5	SW quad.	1.5	5.7	Ci.-S.	Cu. SW	-------	∪ ◯ a. ∞ ∪ p.
29	56.79	28.2	31	26.1	69.2	WSW	1.3	5.8	Ci.-S.	Cu., S.-Cu. WSW	-------	
30	56.94	28.6	31.3	25.9	71.8	SW quad.	.8	6.7	Ci.-S.	S.-Cu. WSW	-------	
31	55.29	28.4	31	26	74	SW	1	7.7	Ci.-S., A.-Cu. E	Cu. W	-------	◯ a.
Mean	757.40	27.3	31	24.5	77		.7	6.5				
Total											228.8	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6.5 meters; gravity correction not applied,—1.84 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	757.25	27.3	29.2	25	77.3	SW	1.7	9.7	Ci.	Cu. SW	1.3	● p.
2	57.93	26.8	28.9	21.5	76.2	SW quad.	1.7	10	Ci.-S.	Cu.	34.3	⌐◹ ● a. d a. p. ◟ p.
3	58.54	26.9	29.2	23.7	76.8	SW	1.5	9.8	Ci.-S.	Cu.	13.7	d ● p.
4	58.53	25.9	28.1	22.4	82.5	SW	1.2	10	Ci.-S.	Cu.	.8	● a.
5	57.76	26.3	29.6	23.9	82.7	SW	1.2	7.7	Ci. NE	Cu.	10.9	┼ ⌐◹ ● d p.
6	58.55	26.6	29.5	23.8	81.7	SW	1.3	5.7	Ci. NE	Cu.	-------	● a. ◟ p.
7	59.08	26.2	30.2	23.5	85.3	SW	1	6.7	Ci., Ci.-S.	Cu.	-------	┼ ◟ p.
8	57.97	26.5	30.5	23.3	83.5	S, NW	.7	7.3	Ci.-S.	Cu.	1.6	┼ ● ◟ d p.
9	57.64	26.3	29.2	24.1	86.5	NW, SW	1	9	Ci.-S.	Cu.	-------	● a.
10	57.95	27.4	30.3	25	78.3	SW	1.5	7.2	Ci.	Cu.	-------	d p.
11	57.62	26.9	29.7	24.4	82	SW	2	6	Ci.-S.	Cu.-N.	6.1	● ◟ p.
12	57.21	26.2	29.5	23.3	84.3	SW	2	9.7	Ci.-S.	Cu. SW	36.1	d a. ● a. p. ⌐◹ p.
13	56.76	25.5	29.4	21.6	88.8	SW	2.8	9.8	Ci.-S.	Cu.-N.	131.1	● a. p. ◟° ⌐◹ ● p.
14	57.40	25.4	29	22.3	90.2	SW	2	9.2	Ci.-S.	Cu., Cu.-N.	38.1	d a. ● ┼ p.
15	57.99	27	29.3	24.9	85.7	SW	1	7.5	Ci.-S.	Cu.-N.	2.8	● a.
16	57.94	26.7	30.3	23.2	84.3	Variable	1.2	4.7	Ci.-S.	Cu., Cu.-N.	10.1	┼ d ⌐◹ ● ◟ p.
17	57.40	26.6	29.4	24	87	SW	1.7	8.2	Ci.-S., Ci.	Cu.	3	● a.
18	57.14	27.4	29.6	25.1	78.7	SW	1.5	7.3	Ci.	Cu. SW	-------	┼ d ◟ p.
19	57.35	26.8	29	24.6	79.7	SW	2.2	7.2	Ci.	Cu.	-------	
20	57.47	27.5	30.1	25.6	76.5	SW	1.7	5.8	Ci.	Cu.	-------	◟ p.
21	57.91	26.7	29.7	24.1	80.7	SW	1.8	7.3	Ci.-S.	Cu.	-------	
22	58.06	26.4	30.1	24	83.7	SW	1.8	7.7	A.-Cu. NE	Cu.	11.6	● d p.
23	57.31	26.3	28.3	23.8	77.8	SW	1.8	9.8	Ci.-S.	Cu.	3.8	● d a. p.
24	57.83	26.6	27.7	23.8	76.7	SW	2	10	Ci.-S.	Cu.	-------	d p.
25	57.40	27.4	30.3	24	77	SW	2	8.8	Ci.-S.	Cu.	3	● p.
26	56.02	27.1	30.2	23	80	SW	2.3	8.8	Ci.-S.	Cu. SW	82.3	● a. p. ⌐◹ ●² p.
27	55.23	26.5	29.7	22.4	83.5	SW	3	10	Ci.-S.	Cu.-N.	27.7	●² a. d ◟° ● p.
28	55.49	26.2	29.2	22.6	86.5	SW	2.7	10	Ci.-S.	Cu.-N.	38.1	● a. p.
29	56.72	27.2	29	22.4	81.2	SW	2.5	9.2	Ci.-S.	Fr.-N. SW	2.3	● a. p.
30	57.12	28	29.6	26.1	79	SW	2.2	9.2	Ci.-S., A.-Cu.	Cu.	-------	
31	55.35	28.1	30	25.2	78.7	SW	2.8	9	Ci.-S.	Fr.-Cu. SW	77	●° a. ◟ ⌐◹ ● p.
Mean	757.42	26.7	29.5	23.8	81.7		1.8	8.3				
Total											535.7	

Meteorological data for first and second class stations—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean)	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.59	27.3	30.6	23.6	74.7	SE quad.	0.5	9.5	Ci.-S. NbyE	Cu.-N.	-------	┬° a.
2	58.06	28	30.3	24.3	75.5	Variable	1	10	Ci.-S.	Cu.-N. W	0.5	○ ☇ ┬ d° p.
3	59.05	26.1	28.4	23.6	85.7	SSE, NE	.7	10	Ci.-S.	Cu.-N. Wquad.	2.8	d° a. p. ☇ ┬ p p.
4	58.81	25.6	28.4	22.4	88.2	NE, S	.3	8.7	A.-Cu. E	Cu.-N.	96.5	●² d a. ☇ p.
5	58.14	26.8	29.8	23	82	Variable	.7	7.3	Ci.-S.	Cu.-N. SWbyW	6.4	┬ ☇ ● p.
6	58.90	25.9	29.8	22.2	84.2	N, S	.3	8.2	A.-Cu. E	Cu.-N. WSW	-------	┬ ☇ p.
7	59.26	25.9	30.5	22.4	85.5	Variable	.5	8	Ci.-S.	Cu.-N. W	34.3	┬ p ┌┤ ● ☇ p.
8	58.52	25.2	28.8	22	89.5	Variable	.7	10	A.-Cu. ESE	Cu.-N.	25.8	≡ a. d ● ☇ p p.
9	58.18	25.6	28.7	22.6	87.2	S, N	.3	9.8	Ci.-S.	Cu.-N. SW	11.2	p ● p.
10	58.32	25.9	28.5	22.4	87.8	SE quad.	.3	9.3	A.-Cu. SW	Cu.-N. W	.5	d a. ┬ a. p. ☇ p.
11	57.96	26.3	30.9	22.6	83.5	Variable	.7	7.3	Ci.-S.	Cu., Cu.-N. W	1.8	♌ ≡ ┌┤ d ┬ ☇
12	57.17	27.4	30.9	23	77.5	SW quad.	1.5	8.3	A.-Cu. W	Cu.-N. SW	-------	p° ┬ p.
13	57.19	27.9	30.5	24	76	S quad.	2	8.3	Ci.-S.	Cu.-N. SW	1	p ☇ p.
14	57.69	27.2	30.7	23.2	81.7	N, S	1	8.5	Ci.-S.	Cu.-N. SSW	-------	
15	58.41	26.2	30.9	22.8	86.5	N, SE	.8	8	Ci.-S., Ci. E	Cu.-N. W	4.1	○° d ┬ ☇ p p.
16	58.33	26.8	30.4	23.2	85.7	S	.3	7.5	Ci.-S.	Cu.-N. WNW	.3	d a. ☇ ┬ p.
17	57.70	26.6	30.5	23.6	84.3	NE quad.	.5	7.7	Ci.-S., Ci.	Cu. W	34.5	┬ ☇ d ● p.
18	57.68	26.5	29.7	23.6	81.8	SE quad.	.8	9.2	Ci.-S.	Cu.-N.	4.8	
19	57.76	25.9	29.4	23.5	86.2	Variable	.5	8.5	A.-Cu. W	Cu.-N. SW	4.1	●° a. d a. p.
20	57.82	26.6	30.2	23.4	85.3	Variable	.7	7.7	Ci.-S.	Cu.-N. SW	18.8	p a. ☇ p.
21	58.38	25.7	28.4	23.6	91.8	SE	0	10	Ci.-S.	Cu.-N. SW	61.2	● a. ●² ┬ ☇ p.
22	58.42	26.1	30.1	23.4	86.3	SE quad.	.8	9.5	Ci.-S.	Cu.-N. W	6.9	○° a. p p.
23	57.78	25.7	28.5	23.3	87.7	S quad.	1.2	9.8	Ci.-S.	Cu.-N. WSW	23.1	d ● a.
24	57.98	26.6	29.9	23.9	83.8	SW quad.	.3	10	Ci.-S.	Cu.-N. W	-------	● a. ♉ p.
25	57.43	28.4	31.2	25.4	72.5	SW quad.	1	9.7	Ci.-S.	Cu.-N. W	-------	○ a.
26	56.29	28.9	31.4	25.8	72.8	SSW	2.7	9.5	Ci.-S.	Cu.-N. SW	-------	○ a. ☋° p.
27	55.40	29	30.5	25.8	72.7	SSW	3.5	10	Ci.-S.	Cu.-N. SW	4.3	p a.
28	55.70	29.1	31	27.6	71.3	SW quad.	2.8	8.3	Ci.-S.	Cu.-N. SW, SSW	-------	
29	57.05	29	31.7	26.8	72.8	SW quad.	2.5	7.5	Ci.-S. NE	Cu.-N. SSW	-------	○ a. p ♉° p.
30	57.03	28.4	31.3	25.9	77.3	S quad.	1	7.3	A.-Cu., Ci.-S.	Cu.-N. W	-------	┬° a.
31	55.36	29	30.8	25.6	73.5	SSW	2	9.3	Ci.-S.	Cu.-N. W	.3	○ a.
Mean	757.72	27	30.1	23.8	81.7	-------	1	8.8	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	343.2	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 3.4 meters; gravity correction not applied, —1.82 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*				*mm.*	
1	757.11	27.7	32.2	23.8	77.5	Variable	0.7	8	Ci.-Cu. ESE	Cu.-N.	W quad.	-------	☇ p.
2	57.58	27.3	30.5	24.5	80.7	W	1.2	8.3	Ci. ESE	Cu.	W	-------	☋² ♉² ○² a.
3	58.45	26.8	29.5	24.4	83.7	ESE	.3	8.8	Ci.	Cu.-N.	W	-------	○° a.
4	58.18	27	32.4	24.4	83.2	Variable	.8	6.5	Ci.-S. SE	Cu.	WNW	-------	☇ a.
5	57.78	26.9	33	23.6	83.7	W	.5	5	Ci.-S.	Cu.-N.	W	4.8	♌² a. ● ┌┤ p.
6	58.26	27.4	32.6	24.4	79.8	Variable	.7	8	Ci.-Cu. E	Cu.	W	1	● ☇ p.
7	58.88	26.7	33.4	23.7	84.3	Variable	.7	7.8	Ci.-Cu. E	N.	W	26.7	☇ a. ● ┌┤ p.
8	58	26.1	31	23.4	86.8	NW	1.2	9.2	Ci. E	N., cu.-N. W, WNW		7.9	● a. p.
9	57.63	26.2	30.6	23.6	85.7	NW	.5	8	Ci.-S. E	Cu.-N. WbyN		16.2	● a. p.
10	58.08	25.4	30.6	23.3	90.3	W	.5	7.2	Ci.-Cu.	Cu., Cu.-N.	W	8.6	● a. p. ┌┤ p.
11	57.31	27.3	32.8	23.3	80	WNW, W	1.2	7.3	Ci.-Cu., Ci. E	Cu.	W	1.5	● d p.
12	56.49	27.6	33.5	23.3	76.8	W quad.	1.2	7.2	Ci.-Cu., Ci. E	Cu., Cu.-N.	W	-------	d° p.
13	56.51	27.8	33	24.2	76.2	W quad.	1.2	7.5	Ci. NNE	Cu.-N., Cu.	wsw	-------	
14	57.06	27.6	33	24	77.8	W	1	7	Ci. NNE	Cu.	WSW	2	◠ a. ● p.
15	57.99	27.5	32.6	23.8	84.7	NW	.5	7.2	Ci. NNE	Cu., Cu.-N.	W	3	○² a. ● p.
16	57.94	26.9	33.4	23.8	87.7	E, NE	.3	6	Ci., Ci.-S.	Cu.-N.	W	1.3	♌² a. ● d p.
17	57.28	28.1	34	23.8	81.5	E	.7	6.7	Ci. NE	Cu.-N.	W	1.5	◠ ● p.
18	57.24	27	30.4	24.8	86.8	N quad.	.3	7	Ci.	Cu., Cu.-N.	NW	-------	○² a. p. ♌² p.
19	57.24	27.1	32.5	24	84.3	NW quad.	.8	5.2	Ci.-S. NE	Cu.	W	39.4	♌² a. ●² ┌┤ a. p.
20	57.38	26.6	32	24.3	89	Variable	.5	8.2	Ci. NE	Cu.-N.	W	19.5	● a. p. ┌┤ p.
21	57.90	27.1	31	24.2	85.5	W quad.	.8	7.3	Ci.-S.	Cu.-N.	WSW	-------	
22	57.99	26	31.5	24	88.8	W	.5	8.7	Ci.-S., Ci.	Cu.-N., N. W quad.		48.2	○² a. ●² d p.
23	56.93	27.4	31	24	81.3	WNW, NW	.7	7	Ci. NE	Cu.	WSW	1.3	● a. ○² ☋² p.
24	57.29	27.3	30.4	25	79.5	WNW	.7	8.3	Ci.	Cu.-N.	NW	-------	○° p.
25	56.65	28	31.7	24.3	73	W quad.	1.3	8.3	Ci. SE	Cu.	NW	-------	○² a. p.
26	55.56	29	33	24.2	69.2	SW quad.	1	7.3	Ci. E	Cu.	W quad.	-------	○² a. p.
27	54.81	29	33.4	26.1	67.2	SW quad.	1.7	6.7	Ci. ENE	Cu.	SWquad.	-------	○² a. p. ☋² ♉² p.
28	55.09	29.8	34.5	26.3	62.3	SW	1.3	6.3	Ci. ENE	Cu.	SW	-------	☋² ○² a. p. ♉² p.
29	56.36	29.5	34.2	26.3	65	SW quad.	1.2	6.7	Ci.-S. ENE	Cu.	SW	-------	♉² p.
30	56.26	29.2	33.6	24.4	68.8	W quad.	1.3	6.7	Ci. ESE	Cu.	W	-------	○² a. ☋² ♉² p.
31	54.61	29.1	33.5	25	70	WSW	.7	8.2	Ci. ENE	cu., cu.-N.	wquad.	-------	♉² a.
Mean	757.16	27.5	32.3	24.3	79.7	-------	.8	7.3	-------	-------		-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------		182.9	

Meteorological data for first and second class stations—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	756.81	26.7	31	23.1	81.2	S	1	9.5	Ci.-S.	N. S	2.8	● ⊤° p.
2	57.66	27.3	33.2	24.8	78.7	S	.7	8.8	Ci.-S.	N. SW	-------	☾ d° p.
3	58.24	26.8	31.8	24.3	82.8	S	1	9.2	Ci.-S.	N.	5.4	d° a. p. ●° p.
4	58.31	25.7	30.3	23.6	88.3	S, SSE	.3	10	Ci.-S.	N. S, W	17	d° ● a. p. ⊤° p.
5	57.78	26.2	32.8	22.9	87.2	S quad.	.8	5	Ci.	Cu. S	9.9	☾ a. ☾ ● ☾ p p.
6	58.65	26.9	34	22	82.5	SE	.5	6.2	Ci.-S.	Cu. W, SW	-------	●° ☿ a. ⊤ ◠° ☾ p.
7	58.91	27	33.6	23.3	81.5	Variable	.5	7	Ci.	Cu. SW, NW	.3	⊤° ☾ p.
8	58	27.2	32.8	23.7	82	NNW	.5	8.8	Ci.-S.	N. W, SW	3.9	d a. ⊕ ○ ☾ ●° p.
9	57.76	25.4	31.2	22.2	89.5	SSW	.2	9.8	Ci.-S.	N., Cu. SW	54.3	d° ⊤ ●ᵛ p.
10	57.94	26	32.4	22.8	87.2	S quad.	.7	7.8	Ci.-S.	N. NW	-------	d° ⊤° ☾ p.
11	57.65	26.1	33	22	86.3	Variable	.5	5.3	Ci., Ci.-S.	N., Cu. NW	3.1	⊤° ☾ ●° p p.
12	56.94	26.2	32	22.9	86	Variable	.5	8.8	Ci.-S.	N. SW	1.1	●° a. d° p.
13	56.55	25.6	32.6	23.5	90.2	S quad.	1	9.2	Ci.-S.	N. SW	14	●° ⊤ a. ● ☾ p.
14	57.10	26	30.4	23.4	87	SSW, W	.5	8	Ci.-S. SW	N., N.-cf. SW	4.6	● a.
15	57.96	26.4	32.9	23.2	86.2	SW	.7	8.5	Ci.-S. SW	N. SW	-------	☿ ○ a. ⊤° d° p.
16	57.95	27.5	33.2	23.5	84.3	N, NW	.3	6.2	Ci.-S.	N.-cf. NW	-------	♌ a. ⊕ ○ ☾ ☿ p.
17	57.26	27.2	33.4	23.5	83.5	Variable	.5	4.8	Ci.	Cu. SW	-------	◠° ☾ ☿ ⊤° p.
18	57.20	26.9	33.3	23.4	87.8	S, SE	.3	7.2	Ci.-S.	N.	-------	⊤° ☿ ☾ p.
19	57.25	26.3	32.2	23.9	89.3	NW	.2	8.5	Ci.-S.	N., Cu. SW	1	☾ a. d° ⊤° ●° p.
20	57.42	26.8	33.3	22.6	86.2	N, S	.3	7.7	Ci.-S.	Cu. NW, W	.8	⊕ ○ a. ⊤° ☾ ●° p.
21	57.80	25.7	32.1	22.5	90	Calm	0	8	Ci.-S.	N. SW	70.6	●° a. ☾ ☿ ☾ ●² p.
22	57.99	25.9	31.9	22.5	89.2	NW	.2	7.8	Ci.-S.	Cu. W	23.1	p° a. ⊤° ● ☾ p.
23	57.27	26	30.3	23	88.2	Variable	.5	9	Ci.-S.	N. SW	-------	☾ p.
24	57.72	26.6	31	23.2	84.3	SSW, WSW	.3	8.5	Ci.-S.	N. W	-------	☿° ☾ d° p.
25	57.20	27	34.5	23.2	78.7	W	.7	8.8	Ci.-S.	N. W	.5	d° a. p.
26	55.66	25.9	32.9	23.2	88	SSW	.7	8.7	Ci.-S.	N. W	7.6	●° p p.
27	54.64	26.2	32.1	23.7	87	SSW	1.2	9.3	Ci.-S.	N. SW	4.8	d° p° a. p.
28	54.73	27.4	33	24.2	80.3	SSW	1	9.3	Ci.-S. SW	N. W	-------	⊕ ○ a. d° a. p.
29	56	28.1	34	24.1	76	SW, S	1	8	Ci.-S.	N. W, SW	-------	
30	56.61	28.1	33.8	24.2	79.3	S, NW	.3	8.8	Ci.-S.	N. W	-------	d° a.
31	54.69	28	32.7	24.7	77.5	S, W	.7	9.3	Ci.-S.	N. W	.5	⊕ ○ a. ☾ d° p.
Mean	757.21	26.6	32.5	23.3	84.7	----------	.6	8.1	----------	----------	-------	
Total	-------	------	------	------	------	----------	-------	-------	----------	----------	225.3	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.80 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	756.94	28	30.2	26.5	75.8	SW	1.3	8.3	A.-Cu.	NW	S.-Cu.	W	-------	☿ a.
2	57.60	27.9	31.2	25.8	78.7	W quad.	1.3	8.8	A.-Cu.	NNE	S.-Cu.	WSW	0.8	☾ d° a.
3	58.28	27.5	28.8	25	79.3	SW	1.7	10	Ci.-S.		S.-Cu.	WSW	36.1	d a.
4	58.23	27.5	30.4	23.5	80.3	SW	1.5	8	A.-Cu.	S, SE	N.	WNW	-------	● a.
5	57.62	28.1	32.2	24.8	79.2	W quad.	1.2	5.2	Ci.		S.-Cu.	WSW	1.5	d ☾ p.
6	58.39	27.2	32.2	24.3	84.7	W quad.	.7	6.7	A.-Cu.	ESE	S.-Cu.	W	-------	d° a. ☾ p.
7	58.77	26.3	32.2	23.5	87.2	W, WNW	.7	7	Ci.-S.		S.-Cu.	WNW	1	⊤ d ☾ p.
8	57.87	26.2	30.3	24	91	W quad.	.5	9	Ci.-S.		N.	W	5.4	d a. p.
9	57.67	26	29.7	23.7	89.3	W quad.	.8	9	Ci.-S.		S.-Cu.	W	17.2	d ●° a. ● ☾ p.
10	57.73	25.7	28.6	23.2	89.8	WSW, W	.3	8.5	A.-Cu.		S.-Cu.	W	40.1	d° ● a. ●° ☾ p.
11	57.21	27.4	31.4	25.1?	84.2	W	1.7	7	A.-Cu., Ci.-S.		S.-Cu.	W	-------	p° a.
12	56.61	27.3	30	23.9	83	WSW	2	8.2	Ci.-S.		S.-Cu.	W	20.8	● ☾ p.
13	56.35	27	29.8	23.7	82.3	SW	2.5	9.2	Ci.-S.		S.-Cu.	SW	8.9	p ⊤ p.
14	56.86	27.6	31.1	25.9	81	SSW	2.3	7.2	Ci.-S.		S.-Cu.	SW	1.8	p p.
15	57.73	28	30.7	25	83.3	WSW	1.2	6.3	Ci.-S.		S.-Cu.	WSW	1.5	☾ p.
16	57.71	27.8	32	24.5	83.2	W quad.	.5	6.8	Ci.-S.		S.-Cu.	W	-------	●° a. ☾ p.
17	57.30	27.8	31.9	25.2	84.3	W quad.	.7	7	Ci.-S.		S.-Cu.	W	5.6	d a. ☾ p.
18	57.15	26.1	28.4	24.1	87.3	S quad.	1	9	Ci.-S.		N.	SW	4.1	d ●° a. ☾ p.
19	57.16	26.8	31.4	23.4	85.2	Variable	.7	7.3	Ci.-S.		S.-Cu.	WSW	2.5	d° a. ☾ p.
20	57.13	27.3	31.8	24.5	84.8	SW quad.	.5	7.3	Ci.-S.		S.-Cu.	WSW	8.6	⊤ ●° a. d ☾ p.
21	57.65	26.9	31	24.3	87	W quad.	1.2	8	A.-Cu.		S.-Cu.	SW	45.8	● a. ☾ ☿ p.
22	57.61	27.3	31.1	24.1	84.3	W	1.3	8.8	A.-Cu.		S.-Cu.	W	4.1	●² d a. ☾ p.
23	56.99	26.6	29.6	24.6	86.8	SW quad.	1	8.8	A.-Cu., Ci.-S.		S.-Cu.	W	4.1	●° d° a. ☾ p.
24	57.20	26.6	28.6	25.2	85.7	SW	1.8	9.7	Ci.-S.		S.-Cu.	WSW	5.6	●° a. ☾ p.
25	56.55	27.8	30.4	26.4	79.3	WSW, SW	2	9.3	Ci.-S.		S.-Cu.	W	-------	☾ ⊤ p.
26	55.54	27.4	30.7	23.8	84.8	SW	2.3	8.8	A.-Cu.	NWbyW	S.-Cu.	SW	13.7	p ◠ ● p.
27	54.56	27.9	30.4	26.1	80.3	SSW	3.2	8.7	Ci.-S.		S.-Cu.	SW	1.5	p° a. d° p.
28	54.77	28.6	31.1	25.7	76	SSW	3.8	8.5	Ci.-S.		S.-Cu.	SW	1.5	☾ ○ a. ☾° a. p. p p.
29	55.99	28.4	30.9	26.8	77	SSW	3.5	7.7	Ci.-S., Ci.-Cu.		S.-Cu.	SW	-------	☾ ○° a. ⊕ p.
30	56.20	28.3	31.3	27.2	79.7	SSW	2.3	8.5	A.-Cu.		S.-Cu.	SW	-------	
31	54.54	28.3	29.9	27.3	82	SW	2	10	Ci.-S.		S.-Cu.	SW	-------	
Mean	757.03	27.3	30.6	24.9	83.1	----------	1.5	8.1	----------		----------		-------	
Total	-------	------	------	------	------	----------	-------	-------	----------		----------		232.2	

Meteorological data for first and second class stations—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 5.5 meters; gravity correction not applied,—1.77 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	756.52	26.9	30.4	22.6	82.8	SW	1.7	9.5	Ci.-S.	Cu.-N. WSW	-------	
2	57.21	27.3	30.5	23.1	81.5	SW	1.2	9	Ci.-S.	Cu. WSW	-------	d° p.
3	57.85	26.8	28.7	23.1	83.3	SW, WSW	1	10	Ci.-S.	Cu. W	15	d² ●° a.
4	57.66	26.5	31.6	21.5	84.3	SW quad.	1.5	7.3	Ci. E	Cu. SW	-------	●a.
5	57.49	27.1	32	23	81.3	W	1.2	3.8	Ci., Ci.-S.	Cu. WSW	-------	●° ⟆ p.
6	58.20	26.6	32.5	23.6	84.8	SW quad.	1.2	4.7	Ci. ESE	Cu. WSW	7.1	● a. p. ⟆ p.
7	58.52	26.5	32.1	22.8	84.2	W	.8	4.8	Ci.	Cu. W	1	┼° ●° ⟆ p.
8	57.80	25.3	31.2	21.5	88.5	W	.3	7.7	Ci.-S.	N., Cu.-N. W	17.6	● a. p. ┼ ⟆ p.
9	57.23	25.1	29.2	21.2	92	SSW, SW	.7	8.2	Ci.-S.	N.	-------	
10	57.31	25.8	31.8	21.1	86.7	W, SW	1	8.3	Ci.-S.	N. WSW	48.8	● a. d² ●² p.
11	56.80	26.5	31.5	22.4	82.2	W, SW	1.3	6.7	Ci.-S.	Cu.-N. WSW	5.1	● a.
12	55.95	26.5	30.5	23	84	SW	1.3	8.7	Ci.-S.	Cu. WSW	12.7	● p.
13	55.65	26.3	29.6	22.8	84.5	SW	1.7	8.7	Ci.-S.	Fr.-N., Cu.-N. WSW, SW	14.3	● a. p.
14	56.31	27.1	30.4	23.6	82.3	SW	1.3	8	Ci.-S.	Cu.-N. WSW	15.7	● a.
15	57.35	27.3	31	24	83.7	SW, W	.8	6.3	Ci.-S.	Cu. WSW	1.3	●° a. p.
16	57.53	27.9	33	24	83.2	SW quad.	.8	5.7	Ci.-S.	Cu. WSW	-------	d° ⟆ p.
17	56.93	27.4	32.1	23.4	83.8	W quad.	1	5.2	Ci. E	Cu. WSW	2.5	● d° ⟆ p.
18	56.80	26.6	29.4	23.1	86	SW quad.	1.2	6.8	Ci.-S.	N.	1	d° ● a.
19	56.79	26.2	31.5	22.7	88.7	W	1.2	4.8	A.-Cu. S	Cu. WSW	13.7	● a. p. d° p.
20	57.10	25.9	32	22.8	91.7	W	.3	6.2	Ci.-S.	Cu., Cu.-N. SW, WSW	42.6	● d a. p. ┼° ⌒ p.
21	57.35	26.6	31	21.9	87.3	SW	.5	6.3	Ci.-S.	Cu., N. SW, WSW	.3	●² a. d° p.
22	57.55	26.1	30.3	23	89	SW	1.3	8.2	Ci.-S.	Cu.-N. WSW	27.5	d ●° a. ● p.
23	56.59	26.3	33.7	22	87	SW quad.	1.2	9	Ci.-S.	Fr.-N. W	.5	●° a. ⌣ p.
24	56.85	25.6	28.5	23.3	90	SW	1.2	9.8	Ci.-S.	N. WSW	36.3	●° d° a. ●² p.
25	56.46	26.4	29.5	23	86.7	SW quad.	1.2	10	Ci.-S.	Fr.-N. WSW	5.8	● p.
26	54.71	26.2	30	23	87.5	SW quad.	1.5	9	Ci.-S.	Cu.-N., Cu. WSW	23.3	● a. p.
27	53.52	26.9	30.7	23.4	86.2	SW	1.7	7.3	Ci.-S.	Cu.-N. SW	4.6	● d² a. ●° p.
28	53.99	27.3	30.1	23.6	82.2	SSW	2.2	9.5	Ci.-S.	Fr.-N. SW	1.8	● a. ●° d° p.
29	55.07	28.2	31.5	24.4	79.3	SW	2.7	6.3	Ci.-S.	Cu. WSW, SW	-------	
30	55.41	27.8	30.2	25.2	80.2	SW	2.5	8	Ci.-S.	Cu. WSW, SW	-------	
31	54	27.1	29.5	24.5	85.5	SW	1.5	10	Ci.-S.	N. WSW	17.2	● a. p.
Mean	756.60	26.6	30.8	23	85.2	----------	1.3	7.5	----------	----------	----------	
Total	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	315.7	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.74 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	755.38	26.3	28.8	24	86.2	SW quad.	0.8	10	Ci.-S.	S.-Cu. W	-------	d° a. ⟆° p.
2	56.58	27.1	32.2	25.2	77.7	SSW, SW	1	9.8	A.-Cu. Variable	S.-Cu. SW, W	3.8	⌐◪ ● p.
3	57.23	26.8	32.4	23.5	83.2	SW quad.	1.2	9.7	A.-Cu. ENE	N. W	3.1	d² a. ● ⌐◪ ⟆ p.
4	57.46	26.8	30.6	23.8	82.3	SW	.8	9.7	Ci.-S.	S.-Cu. SW	-------	◯° a.
5	56.98	27	32.2	22.7	80.3	SW	.8	4.8	A.-Cu. E	Cu. S	-------	d° ◯° a. ⟆ p.
6	58	26.1	31.8	22.8	82.7	SW	1.3	5.3	Ci.	Cu., N. W	6.1	d² ● ⌐◪ ⟆ p.
7	58.61	26.7	32.2	22.4	80.5	SW	1	5.7	Ci. E, SE	Cu. NW	-------	⌐◪ ⟆ p.
8	57.69	26.8	31.7	22.9	80.8	SW	1.2	7.3	Ci. SE	Variable W	5.1	● a. p. ⌐◪ ⟆ p.
9	57.10	26.1	31.5	23.2	87.3	SW	1	6.5	Ci. E	Cu.-N. S	-------	≡ a.
10	57.22	25.2	31.2	23.2	89.3	SW	.3	9.7	A.-Cu. W	S.-Cu. W, NW	40.6	◯² ●² a. ⌐◪ d° p.
11	56.75	25.8	30.6	22.7	83.7	SW	1	9.8	Ci.-S., Ci.	S.-Cu. W	12.7	d° a. ● a. p.
12	55.65	25.5	30.3	24	86.8	SW	.8	9.5	A.-Cu. W	S.-Cu. W	19.3	● a. d° p.
13	55.16	25.3	28.2	23.8	86.5	SW	1.8	9.7	Ci.-S.	S.-Cu. SW quad.	1.5	d° ●° a. d p.
14	55.66	27	30.9	24.1	79.7	SW	1.5	9	A.-Cu. W	S.-Cu. W	-------	
15	57.10	27.5	32.4	23.8	78.7	SW	1.2	8.5	Ci.	S.-Cu. W	-------	
16	57.32	26.2	31.4	23.4	89.2	SW	1.2	7.2	Ci. E	Cu., Fr.-N. W	5.1	d ● ⟆° p.
17	56.68	26.8	32	23.2	83	SW	1.2	5.2	Ci. ENE	Cu., Cu.-N. W	-------	⌐◪ d p.
18	56.31	27.4	33.4	22.8	81.2	SW	1	5.5	Ci. NE	Cu., S.-Cu. SW, W	-------	
19	56.41	26.8	31.5	22.5	86.8	SW	1.5	6.5	A.-Cu. SE	S.-Cu., Cu. W	14.5	Ω ● a. d² p.
20	56.76	26.1	31.8	24.5	87.7	SW	.8	8	A.-Cu. WSW	cu., N. WSW, WNW	37.6	◯² d° a. ●² ⌐◪ ⟆ p.
21	57.07	26.2	31	23.1	85.8	SW	1.2	6.7	Ci. ENE	S.-Cu. SW	1.8	d² ⌐◪ a. ●° p.
22	57.03	26.8	32	23.5	86.2	SW	.8	6.5	Ci. ENE	Cu., S.-Cu. W	4.3	≡ ◯° a. d ● ⌐◪ p.
23	56.14	27.7	32.6	24.1	79.8	SW	1.2	9.2	Ci.-S. NE, E	s.-cu, cu. SW quad.	-------	◯² a. d° ⌣² p.
24	56.59	27.4	31.6	24.1	75.5	SW	1.7	9	Ci.-S.	S.-Cu. W	-------	◯° a. ⟆ ⌣° p.
25	56.05	26.7	30.9	23.2	77.8	SW, WSW	1.8	9.7	Ci.-S.	S.-Cu. W	1.8	Ω° ◯° a. d° p.
26	54.43	26.2	29.2	23.9	80.7	SW	2.2	9.7	Ci.-S.	S.-Cu. W	11.4	● a. d° a. p.
27	53.05	27.2	30	24.6	78.7	SW	1.7	9.7	A.-Cu. W	S.-Cu. W	5.6	●° a. d° a. p. ⊃° p.
28	53.04	27	29.5	24.9	81.2	SW	1.5	10	A.-Cu. SW	S.-Cu. SW	1.3	●° d° a. d p.
29	54.39	27.4	31	24.7	77	SW	1.7	9.3	Ci.-S.	S.-Cu. SW	-------	d° a.
30	55.12	28.2	32.8	25	70.8	SW	1.8	9.2	A.-Cu. SW	S.-Cu. SW, W	-------	⟆ p.
31	53.65	26.7	32.2	24.5	81.5	SW	1.8	9.8	Ci.-S.	N. W	36.8	◯° a. ●° a. p.
Mean	756.21	26.7	31.3	23.7	82.2	----------	1.3	8.3	----------	----------	----------	
Total	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	212.4	

Meteorological data for first and second class stations—Continued.

PARACALE.

[ϕ=14° 17′ N; λ=122° 47′ E; barometer above sea, 5.3 meters; gravity correction not applied,—1.73 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	755.39	27.4	29.8	25.4	81.3	SW	1.2	10	Ci.-S.	Cu. SW	-------	d° a. p.
2	56.58	27.8	34	25	81.3	SW	1.2	9.5	Ci.-S.	Cu. SW	1.3	d° ● p.
3	57.38	26.6	33.8	23.4	88	SW	1.2	9.7	Ci.-S.	Cu. SW	34.8	☊ d° a. ● ⊤° p.
4	57.28	27	33.3	23.3	84.5	SW	1.2	7.2	Ci.-S., Ci.	Cu. SW	-------	◠° d° ↘ p.
5	57.16	26.8	33.8	23.4	84	SW	.7	3.5	Ci.	Cu. SW	-------	☊² a. d° ↙ p.
6	58.02	27.8	33.8	23.8	80.3	SW, W	.7	2.7	Ci.	Cu. SW	.5	☊² ●° a. ↘ p.
7	58.70	27.6	33.3	23.5	80.6	W	.8	3.3	Ci.	Cu. SW	-------	☊ a. ↙° p.
8	57.82	26.5	32.3	24	88.2	W	.3	8.2	Ci.	Cu. S, WSW	1.3	☊ a. ●° ↘ p.
9	57.12	26	32	23.3	88.7	NE, SW	.8	8.2	Ci., Ci.-S.	Cu. NE	19.6	☊ a. ● a. p.
10	57.25	26	31.8	23	88	WSW	1.2	10	Ci.-S.	Cu. WSW	4.3	☊² a. d ● p.
11	56.74	26.8	32.1	23.5	83.8	WSW	1	9.3	Ci.-S.	Cu. WSW	4.6	☊ a. ● d ↘ p.
12	55.62	26	32.3	24	89.5	WSW	1	8.7	Ci.-S.	Cu., S.-Cu. WSW	3.8	● p.
13	54.93	26.2	30.8	23.9	87.5	SW	.7	9.7	Ci.-S.	Cu. SW	6.6	☊² ●ᶜ a. ● p.
14	55.71	26.6	32	24	87.2	SW	.8	9.3	Ci.-S.	Cu., S.-Cu. SW	16.8	☊ d° a. ● p.
15	57.17	28.1	33.8	24.8	79.7	SW	1	8.3	Ci.-S.	Cu. SW	-------	
16	57.45	28.1	33.5	24.5	80.3	SW	.7	4.7	Ci.	Cu. SW	-------	☊ a. p. ↘ p.
17	56.66	28.2	34.8	25	80.8	SW	.7	6.3	Ci.	Cu. SW	-------	☊ a. p.
18	56.40	27.8	34.6	24	83.3	SW	.7	3.5	Ci., Ci.-S.	Cu. SW	1.8	☊ a. p. ⊤ ● p.
19	56.55	27.2	33.8	24.5	83	SW	.7	5.8	Ci.	Cu. SW	16.5	☊ a. ● a. p.
20	56.94	27.7	33.3	24.5	81	SW	1	5	Ci.	Cu. SW	2.5	● a. p. ⊤ ↘ p.
21	57.46	26.1	33.1	24.4	89.7	W	.5	8	Ci., Ci.-S.	Cu. SW	17.3	● a. p. ⊤ ↘ ⊕ p.
22	57.30	26.6	32.6	23.7	89.2	W	.3	8.2	Ci.-S.	Cu. SW	26.2	● a. p. d ↘ ∪ p.
23	56.31	27.2	33.8	24.1	89	SW quad.	1	9.5	Ci.-S.	Cu. SW, W	42.1	☊ a. p. ● ↘ ⊕ p.
24	56.48	27.2	31.3	24.8	82.2	SW	1.3	10	Ci.-S.	Cu. W	-------	☊ a. ∪ p.
25	55.95	26.5	31.8	24	83.8	SW	1.7	10	Ci.-S.	Cu. W	14.7	↘ ● p.
26	54.14	26.2	32.6	24	86.7	SW	1.5	9.3	Ci.-S.	Cu. SW	2.8	d° a. p. ● p.
27	52.80	27.3	33.4	25	81	SW	1.5	8.5	Ci.-S.	Cu. SW	-------	d° a. p. ⊕ p.
28	52.91	26.9	32.3	24.3	86	SW	1.3	7.7	Ci.-S.	Cu. SW	.8	☊ a. d° a. p. ●° p.
29	54	28.8	33.6	25	74.7	SW	2.2	9.5	Ci.-S.	Cu. SW	-------	
30	54.93	28.6	33.8	25.5	73	SW	1.2	9.7	Ci.-S.	Cu. SW	-------	p p.
31	53.57	26.7	32.8	25	87	SW	1.3	10	Ci.-S.	Cu., S.-Cu. SW	2.8	d ●° ⊤ p.
Mean	756.22	27.1	32.9	24.2	84	----------	1	7.8	----------	----------	-------	
Total	-------	------	------	------	------	----------	-------	-------	----------	----------	221.1	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*				*mm.*	
1	754.67	24.2	24.6	23.4	97.8	SW	1.5	10	Ci.-S.		N. SW	77.2	d ●² a. ● p.
2	56.57	24.3	26	23.2	96.8	SW	2.8	10	Ci.-S.		N. SW	39.1	● a. d a. p.
3	57.91	25.2	30.7	23.2	94.3	SW	1.3	9.3	Ci.-S.		N., Cu. SW	53.1	d° ●² a. p.
4	57.86	25.8	28.9	23	89.3	S	1.3	6.5	Ci.-S.		Cu. S	-------	↘ p.
5	57.49	27.4	32	22.2	83	NE, SE	1.3	1.8	Ci.		Cu. S	-------	☊ a. p.
6	58.56	27.3	32.4	23.6	85	SW	1.7	5.7	Ci.	NE	Cu. W	-------	∪ ☊² ≡ a. ⊤ ↘ p.
7	59.06	26.8	32.5	23.4	88.3	SW	1.2	7	Ci.		Cu. SW, W	33.5	☊² ≡ a. d ●² ⌐↯ p.
8	58.24	27	31.5	23.8	87.2	SW	1.2	7.2	Ci.-S., Ci.		Cu. W	-------	≡ a. ○° ⌐↘ p.
9	57.36	26.9	32.6	23.9	86.3	SW	1.5	6.8	Ci.	NE	Cu. W	-------	☊ a. p. d° ⌐↯ p.
10	57.87	26.3	32	23	89.2	SW	.8	8	Ci.-S.	NE	Cu. SW quad.	41.1	☊ a. ○ ●² d° p.
11	57.65	25.6	31.5	23	91.2	W quad.	1.7	8.2	Ci.	NE	Cu.-N. WNW	7.1	● ⌐↯ p.
12	56.01	25.6	29.4	23	90.3	SW quad.	2	9.2	Ci.-S.	NE	Cu. S	25.9	●² p.
13	55.20	25.4	30.5	28.2	92.8	SW	1.3	8.7	Ci.	N	N. SSW	22.9	≡ a. ● p ⌐↯ p.
14	56.36	25.4	31.7	23	94	SSW	1.2	7.7	A.-Cu.	NW	N., Cu.-N. SW	48.8	●² d° ↙ p.
15	57.73	26.8	32	24	87.8	S	2	5.8	Ci.	NE	Cu. SW	-------	≡° a. ☊ p.
16	57.88	27.6	33.8	24.5	89	S	1.7	7	Ci., A.-Cu.	SW	Cu. S	16.8	☊² ≡ a. ● ⌐↯ p.
17	57.29	27	32.4	24.4	90.2	S	1.2	6.8	Ci.		Cu. W	5.1	≡ a. ↘ a. p. ● p.
18	57.02	27	32.9	23.7	89	SW	1.7	5.7	A.-Cu.	W	Cu.-N. SW	6.1	≡ a. ● ⊕° p.
19	56.91	27.7	33.1	24.3	84.7	WSW, SE	1.2	6.8	Ci.		Cu. W	3	⌐↯ ● ↘ p.
20	57.25	27.1	32.5	23.9	87.2	SSW	1.2	8	Ci.-S.		Cu., Cu.-N. S, W	3	≡ ● a. ⌐↯ d ↘ p.
21	57.53	26.3	32.5	23.6	90.3	NE, SW	2.2	7.7	Ci.-S., Ci.	NE	Cu.-N. SW	13.2	☊ a. ● ⊤ p.
22	57.41	27.2	32	23.4	87.8	S	1.8	6.2	Ci.	NE	Cu. S	5.6	≡ a. ● ↘ ∪ p.
23	56.58	27	31.6	24.4	89	S	1.8	6.2	Ci.	ESE	Cu. S	.3	d° a. p. ↘ ⊕² p.
24	57.20	27.5	31.9	24.2	86.8	SW	2	7.2	Ci.	ESE	Cu.-N. SW	2	☊² a. d ↘ p.
25	56.73	26.2	31.9	24	91.8	WSW	1.2	9.2	Ci.-S.		N. W	12.7	≡ a. ● ⌐↯ p.
26	54.55	26.2	30.2	24.2	90.8	SW quad.	1.5	9.2	Ci.-S., Ci.	NE	N. SW	5.5	d ● a. d ⌐↯ p.
27	53.08	25.9	30.4	24	93.3	SW quad.	1.8	9.7	Ci.-S.		N. SSW	8.8	d° a. p. ● p.
28	52.99	26.5	31	24	91.2	SSW	2.3	9	Ci.-S.		N. SW quad.	11.2	⊕² ● a. p.
29	54.27	25.9	29.9	24.5	94.3	SW	3.5	9.2	Ci.-S.	NW	N. SWbyW	8.4	⊕ a. ↙° ● d p.
30	55.34	25.4	29	23.8	96	SW	2.2	10	Ci.-S.		N. SW	13.2	d² ● a. d ● p.
31	54.27	24.4	26.1	23	97.7	W quad.	.8	9.8	Ci.-S.		N. W quad.	50	d ●² ⊤° a. d ⊤ p.
Mean	756.61	26.3	31	23.6	90.4	----------	1.6	7.7	----------		----------	-------	
Total	-------	------	------	------	------	----------	-------	-------	----------		----------	513.6	

Meteorological data for first and second class stations—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	753.76	24.1	25.3	23.1	98.5	SE quad.	1.5	10		N. SW, WSW	107.7	● ⊤ a. ●^{2} ≤ ⊤ p.
2	55.47	24.8	27.2	23.6	98.5	SE	1.2	10		N. SW	33.3	⊤° a. ● a. p.
3	56.88	25.3	29.7	23.5	95.2	SE	.8	9.2	A.-Cu.	N. SE	10.7	p a. d a. p.
4	57.22	26.7	32.4	23.6	88	SE	.8	9.7	A.-Cu.	N. SE	2.3	p ◠^{2} d ≤ ⊤ p.
5	57.11	27.3	32.9	23.1	81.7	E quad.	1	5.3	A.-Cu.	Cu.	1.5	◠^{2} ⊤ p° p.
6	57.98	27.6	32.4	24.4	83.7	Variable	.8	8.5	A.-Cu.	S.-Cu.	-------	≤ p.
7	58.56	27.4	31	24.4	83.3	W	.8	6.3	A.-Cu.	S.-Cu. W	3	p ≤ p.
8	57.64	27.5	32	24.4	83.8	NW	.8	8.5	A.-Cu.	S.-Cu.	-------	≤° p.
9	57.29	26.8	32.1	24	87.7	SE	1.2	8.5	A.-Cu.	Cu., N.	13.7	p ● ≤ ⊤^{2} p.
10	57.50	26.6	32.4	23.9	90.5	Variable	.7	9.2	A.-Cu.	N.	6.9	p° ● p.
11	57.18	26.4	30.7	23.5	91	NW	.8	8.2	A.-Cu.	Cu., N.	1	● a. ◠ d^2 p.
12	55.69	26.9	33.5	23.7	90.2	S	1	9.5	A.-Cu.	S.-Cu. SE	22.1	p ● d ◠ p.
13	54.60	26.8	32.5	23.7	88.8	Variable	.5	7.7	A.-Cu.	Cu.-N., N.	20.6	d a. d ● p.
14	55.87	26.8	31.9	23.3	90	Variable	.7	8.8	A.-Cu.	S.-Cu., N.	-------	● a. d p.
15	56.97	27.8	33.9	24.2	89.7	SE quad.	1	7.2	A.-Cu.	Cu.-N. SW	2	d° ⊤ ◠° p° p.
16	57.38	28	32.6	25	92	Variable	.3	6.2	A.-Cu.	Cu. SW	45	d ◠ p° ●^{2} ≤° p.
17	56.72	27.6	32.5	24.9	92	SE, NW	.5	8.2	A.-Cu.	Cu. SE	2.3	d a. d° p° ≤° p.
18	56.96	26.5	33.5	24.6	93.3	SE, SW	1	9.5	A.-Cu.	S.-Cu., N.	18.3	d° a. d p ● ⊤° p.
19	56.54	27.4	31.7	24	89.7	NW	.7	6.8	Ci.-S., A.-Cu.	Cu., S.-Cu.	-------	d a. ≤ a. p. ⊤° ᘐ p.
20	56.60	28.1	33.1	25	89.3	S quad.	1.2	8	Ci.-S., A.-Cu.	S.-Cu., N.	3.3	◠ ≤ ⊤ p° p.
21	56.68	27.5	34.4	24.6	90.7	SE	1	8.2	Ci.-S., A.-Cu.	Cu., S. SE	.8	d a. p.
22	56.83	28.4	33.8	24.2	88	SE	1	8.2	Ci.-S., A.-Cu.	Cu., Cu.-N. S, sw	4.1	⌐◪ d° p° p.
23	56.11	27.3	33.4	24.6	87.7	SE, SW	1.2	8.2	A.-Cu.	S.-Cu., N. SE, W	1.3	d^2 a. d° ≤ ⊤ p.
24	56.69	27.2	34	24.5	86.7	SE, SW	1	7.5	Ci.-S.	Cu.-N. SW	4.1	Ω^2 a. d^2 p ≤ ⊤° p.
25	56.30	26.8	31	24.5	89	NW	.8	8.5	A.-Cu.	S.-Cu.	2.8	d° a. d p° p.
26	54.16	27	30.6	24.3	86.2	SE	.8	7.8	A.-Cu.	S.-Cu.	-------	ᘐ p.
27	52.38	26.9	32.7	24.2	89	SE	.8	8.7	A.-Cu.	S.-Cu. SE	1.5	d^2 p.
28	52.36	27	31.9	24.5	88.3	SE, SW	1	9.5	A.-Cu.	S.-Cu. SE	3.5	d a. p.
29	53.52	26.6	31.2	24.4	91.7	SE quad.	.7	9.2	A.-Cu.	N. SW	18.1	d p° a. d ≤ p.
30	54.87	25.2	29.4	24.5	95	E quad.	1	9.8		N. SW	82.4	● a. ●^{2} ≤ p.
31	53.89	24.6	25.9	23.8	97.3	SE quad.	1	10		N. SW	129	●^{2} ⌐◪ a. ● ⊤ p.
Mean	756.06	26.8	31.7	24.1	89.9		.9	8.4				
Total											541.3	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 9.7 meters; gravity correction not applied, —1.65 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	752.68	25.2	27.3	24.4	93.3	SW	4.7	10		N.-cf. SW	81.6	↙° ●^{2} a. p. ⌐◪^{2} p.
2	54.65	24.1	25.9	23.2	97.3	S	3.2	10		N.	128.5	⌐◪ a. p ●^{2} a. p.
3	56.58	24.2	26.5	23.4	95.3	SE quad.	2.8	10	Ci.-S.	N.	70.9	●^{2} p a. ● p.
4	56.65	26.1	30.9	23.2	88.2	S	3.2	10	Ci.-S.	S.-Cu.	.5	●° a. d p.
5	56.88	26.8	30.6	23.6	86.2	S, SE	2.2	7.3	Ci.-S.	S.-Cu., N.-cf.	1.3	p ⌐◪ d p.
6	57.86	26.9	30.7	23.5	83.2	S	2.7	10	Ci.-S.	S.-Cu.	1.5	●° a. p.
7	58.52	26.7	31.1	23.9	85	W, S	2.2	9.7	Ci.-S.	S.-Cu.	1.8	Ω° ◠ ●° a.
8	57.52	26.5	29.6	23.9	87.2	SW, S	1.5	10	Ci.-S.	S.-Cu.	.1	Ω ⊤ a. d p.
9	56.84	27	31.9	24.1	87.5	SE quad.	2.5	10	Ci.-S.	Cu.-N.	3.8	Ω d° a. ◠ ●° p.
10	57.08	26.6	31.7	23.4	87	S	2.2	10	Ci.-S.	S.-Cu., Cu.	35.1	d^2 a. p. ⊤ ⌐◪ ●^{2} p.
11	56.72	25.2	28.6	23.6	92.5	S quad.	2.7	10	Ci.-S.	N.-cf.	11.1	●° a. p p.
12	55.17	26.4	32	23.9	87.7	SE quad.	3.3	10	Ci.-S.	N.-cf.	4.1	◯^{2} p p.
13	54.41	26.9	32	23.4	86.7	S quad.	2.3	10	Ci.-S.	S.-Cu.	7.1	p a. ●° p.
14	55.44	27.4	32.5	23.7	86.8	SW quad.	3	9.8	Ci.-S.	Cu. SW	.4	●° a.
15	56.78	26.6	31	24.6	88.2	S	2.7	9.8	Ci.-S.	S.-Cu.	52.8	Ω° a. ●^{2} d p.
16	57.24	27.3	31.8	24.4	87	S, W	2.8	10	Ci.-S.	S.-Cu., Cu.-N.	8.9	Ω a. ● ◯° p.
17	56.62	27.3	31.4	24.6	86.7	S, W	2.8	10	Ci.-S.	S.-Cu., N.-cf.	.3	Ω a. ⊤ d a. p.
18	56.37	26.3	29.6	24.4	92.5	S	2.7	10	Ci.-S.	N.-cf.	9	≤ ⊤ a. ●° a. p.
19	56.17	26.8	31.8	24.3	90.2	S	2.3	10	Ci.-S.	S.-Cu.	15.7	● a.
20	56.52	27.8	32.4	24.5	84.5	S quad.	2.2	10	Ci.-S.	Cu.-N.	1.8	≤ ◯^{2} d^2 a. ⊤ ● p.
21	56.57	26.6	30.7	24.4	90	S quad.	2	10	Ci.-S.	Cu. S	5.9	p° ● a. p. ⌐◪ p.
22	56.69	27.4	32.1	24.7	84.8	S	2.7	10	Ci.-S.	S.-Cu.	.8	◯^{2} a. p. ⊤ p.
23	55.71	27.3	32.5	24.9	86.2	S quad.	3.2	10	Ci.-S.	Cu. S	-------	●° d a. ◯^{2} p.
24	56.29	26.5	32	24.2	88.2	S	2.8	9.8	Ci.-S.	S.-Cu., N.-cf.	15.2	d^2 a. p. ● p.
25	55.97	26.9	31.7	24.1	89	W, NW	2.7	10	Ci.-S.	N.-cf., S.-Cu.	4.8	● p° a. ◯° ≤ p.
26	53.81	25.9	29.1	24.2	90.7	S	3.3	10	Ci.-S.	S.-Cu.	1	d a. ◯^{2} ᘐ p.
27	52.08	25.8	30.9	23.7	91	SSE	3.2	10	Ci.-S.	Cu. S	39.6	● a. p. ᘐ° p.
28	52	26.8	32.1	23.9	88.7	S, SW	4.3	10	Ci.-S.	Cu. SSW	19	p a. p.
29	52.92	26.5	30.5	24.9	91.7	SW quad.	3.8	10	Ci.-S.	Cu. SW	33	p a. p. ↙° ⊤ ● p.
30	54.29	24.9	26.9	23.9	96.2	SW	2.5	10		N.-cf.	150.8	● ↙° a. ●^{2} ⌐◪° p.
31	53.24	24.4	25.9	23.2	96.8	SW quad.	2.5	10		N., N.-cf.	81.8	●^{2} ⌐◪ a. ● a. p.
Mean	755.69	26.4	30.4	24	89.2		2.8	9.9				
Total											788.2	

Meteorological data for first and second class stations—Continued.

BAGUIO.[a]

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1,512.5 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction.			
									Upper.	Lower.		
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	631.18	16.9	17.8	16	99.3	WSW	8	10			212.5	⌐◪² ↙ a. ●² a. p. ↙²
2	33.48	16.7	18.3	15.6	98.8	SW	5.2	10	Ci.-S.	N., Fr.-N. SW, SSW	35	≡² a. ● ↙° a. p.
3	35.28	17.1	21.3	16.1	95	W quad.	1.5	10	Ci.-S.	Fr.-N. SSW	6.1	● ↙° a. ≡² ●° p.
4	35.14	17.9	22.8	15.5	93	W	1	9.9	A.-S.	Fr.-N.	36.3	●° a. ● p.
5	35.34	18.2	24.8	15.2	93.2	W	1.2	7	Ci.	S.-cf. SE	27.4	⌐◪² ● ≡² p.
6	36.09	17.9	22.7	15.8	92.2	W	1	9.1	Ci.-S.	Variable	25.1	● ⌐◪² ≡² p.
7	36.48	17.5	22.1	15.5	95.2	W	1.5	8.4	Ci.	Cu., Cu.-N.	11.7	●° a. ≡² ●² p.
8	35.72	17.9	22.3	15.4	92.2	W quad.	1	10	Ci.-S.	Fr.-N. SW	1.3	◯° a. ●° ≡² p.
9	35.26	17.5	22.3	15.5	93	Variable	.7	9.4	Ci.-S., Ci.	Fr.-Cu. SSE	23.3	♎ a. ≡² ● p.
10	35.23	17.1	20.8	15.3	95.7	W quad.	.5	9.3	A.-Cu., Ci.	N.	38.7	≡° a. p. ● ◠° p.
11	34.82	16.9	21.5	14.9	96.8	W quad.	.8	9.9	Ci.	N.	6.3	● a. p. ≡ d p.
12	33.59	17.6	20.6	15.5	94	Variable	.7	9.9	A.-Cu.	Fr.-N. ESE	20.3	⊕ d a. ≡ ●° a. p.
13	32.96	17.6	21.9	15.6	95	NW, W	.8	8.1	Ci.-Cu.	Fr.-Cu. Variable	20.1	≡ ● a. p.
14	34.17	17.5	22.3	15.5	92.8	W	1.8	9.6	A.-Cu. N	Fr.-N. NNW, NW	45.7	●° a. ≡ a. p. ● p.
15	35.42	18.6	24.1	15.5	89.7	W	1.3	6.7	Ci.	Cu.	13.3	● ≡ ⊤ p.
16	35.78	18.3	23.2	16.1	95.5	NW quad.	.8	9	Ci., A.-Cu.	Fr.-N. WSW	4.9	● ≡ p.
17	35.20	17.8	22.8	16.3	95.8	W	1	9.6	A.-Cu. NE	Cu.	5.6	● ≡² p.
18	34.87	18	23	16.1	92.8	W	1	9.9	Ci., Ci.-S.	Cu. ENE	12.7	≡² a. ⊤° ● p.
19	34.78	18.5	23.8	15.5	90.7	W quad.	1.2	7.4	Ci.-Cu. NE	Fr.-N. ENE	12.3	⊤ ◠° ●° p.
20	35.14	18.8	24.4	16.3	92.5	W quad.	.8	9.7	Ci.-S.	Fr.-N. WSW	69.6	●² ≡ p.
21	35.08	18.4	23.4	16	91.5	E, W	1.7	9.9	Ci.-S.	Cu.,N.	44.1	♎ a. ≡ ●² p.
22	35.32	18.5	22.5	15.8	95.3	W quad.	1.2	9.9	A.-S.	Fr.-N. SE, WSW	23.6	≡ ⊕ ◯° a. ● p.
23	34.55	18.6	23.3	16.5	95.2	SE, W	.8	9.6	Ci.	Fr.-N. SSE, SE	2.8	≡ a. p. ● p.
24	34.86	17.9	23.3	15.6	97	W	1.2	9.7	Ci.-S.	Fr.-N. SSE	15.4	◯° a. ⌐◪ ●² ≡² p.
25	34.46	18.1	21.4	16.1	97.8	W	1.2	10	Ci.-S.	Fr.-N. NW	21.9	≡² a. ● p.
26	32.61	18	22.6	15.6	95.3	W	.7	9.9	A.-S.	Fr.-N. WSW	3.5	⊕² a. p. ●° ≡ p.
27	31.23	18.5	22.3	16	95	W quad.	1.3	9.6	Ci.	Fr.-N. SW	20.8	● ≡² p.
28	31.15	17.8	20.3	16.6	96.8	WSW	3.2	10	A.-S.	Fr.-N. WSW	29	⊕ ●° a. ↙° ● ≡² p.
29	32	17.3	18.5	16.5	98.7	SW quad.	5.7	10			87.4	● ↙° a. ↙ ●² ≡² p.
30	32.88	17.2	17.8	15.6	97.2	WSW	6.2	10			307.5	●² ↙ a. p. ⌐◪ p.
31	31.93	16.8	17.6	15.4	97.7	W quad.	2.5	10		N. NWbyW	113	⌐◪ ≡² a. ●² a. p.
Mean	634.26	17.8	21.8	15.8	94.9		1.9	9.4				
Total											1,297.2	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 14.7 meters; gravity correction not applied, —1.61 mm.]

	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	752.35	24.4	26.4	21.8	97.8	S	2.3	10	Ci.-S.	N. SSW	316	●² a. p. ↙° ⌐◪ p.
2	54.21	25.4	27.4	22.3	91.3	S, SSE	3.5	10	Ci.-S.	N. S	73.4	●² ↙° a. d p.
3	56.37	26.1	28.7	24	88.2	S quad.	2	9.7	Ci.-S.	Cu.-N. SSW	1.3	d a. p.
4	56.98	26.1	30	23	86.2	S quad.	.7	9.3	A.-Cu. ESE	S.-Cu. SE	11.6	◡ ◡ a. d ●° ◟ p.
5	57.26	26	31.2	22.7	87.3	SE quad.	.8	7.5	A.-Cu. NE	Cu., Cu.-N. WSW, NW	45.4	d a. ● ⊤ p.
6	58.04	27.1	30.8	22.9	83	SE quad.	1	6.5	Ci.	Cu. SSW	------	● d a. ⊤ p.
7	58.58	26.8	30.2	24.1	84.8	SSE	1.2	5.7	Ci.-S.	Cu. SSW	18.3	● a.
8	57.74	26.7	30	23.8	86.3	SE quad.	1	8.7	A.-Cu. NNE	Cu.-N. SSW	.3	●° ◡ a. d p.
9	57.07	26.8	31.5	23.3	86.2	SE quad.	.8	5.2	Ci.-S.	Cu. SSW, WNW	4.1	d ⊤ p.
10	57.24	25.9	30.4	23.1	90.7	SE quad.	.8	6	Ci.	N. WNW	35.6	d a. p. ● p.
11	56.83	26	30.2	23	88	S quad.	1.2	7.5	A.-Cu. ESE	Cu.-N., N. SW	29.8	d ● p.
12	55.39	26.8	31	23.5	85.3	NNW	.8	8.5	A.-Cu. NNE	Cu.-N. NNE	.8	●° a. d p.
13	54.47	26.8	30.5	23.2	86.2	Variable	.8	6.8	A.-Cu. NE	Cu., Cu.-N. SW	8.1	●° p.
14	55.45	27.2	30.7	23.5	84.3	SSW	1.2	5.7	Ci. S	Cu. SSW	1.5	d p.
15	56.89	27.6	31.1	24.2	85.5	SE	1.3	3.7	Ci.	Cu. SSW	------	
16	57.26	27.6	31.2	24.2	85.3	SW quad.	1.3	6.7	Ci.	Cu. SSW	19	● p.
17	56.63	27.2	31	24	87.2	S quad.	1.3	7.2	Ci.-S.	Cu. SSW, SW	.5	⊤ a.
18	56.41	26.9	30.5	24.4	87.3	S quad.	1	9	A.-Cu.	S.-Cu. SE	------	d a.
19	56.31	27.4	31.3	24.2	84.5	SE quad.	.7	6.3	A.-Cu. S	Cu. S, WNW	2.4	d° p.
20	56.71	27.5	31.6	23.8	85.5	SE quad.	.7	8.3	A.-Cu.	N., Cu. SSW, SSE	------	d a.
21	56.57	27.4	30.8	23.5	83.8	SE quad.	.8	7	Ci. NNE	Cu. SW	8.6	⌐◪° ●° p.
22	56.79	27.1	30.9	23.9	85.8	S quad.	1.3	7.7	A.-Cu., Ci. NNE	Cu. SSW	2.5	d p.
23	55.93	27.4	31.3	23.4	84.5	SE quad.	.8	6.8	Ci. NNE	Cu. SSW	8.6	●° d ⌐◪ p.
24	56.46	27.1	30.9	23.9	86.2	S quad.	.8	6.3	Ci. NNE	Cu. SSW	10.4	d° ●° ⌐◪ p.
25	55.96	26.9	29.7	23.7	87.2	SE quad.	1	7.5	A.-Cu. SE	Cu. SSW	------	d° a. ◡ p.
26	53.83	27.4	30.3	24.3	87.8	SE quad.	1	5.7	A.-Cu. NNE	Cu. SSW	------	⊕ a. p. ◡ p.
27	52.01	27.4	30.9	24.1	86.5	S quad.	1	6	Ci.	Cu. SSW	1.3	d ◡ p.
28	51.80	25.9	27.7	23.7	94.7	SSE	1.7	9.5	A.-Cu. SW	N., Cu.-N. S	46	d ● a. p. ◡ ◡ p.
29	52.56	25.7	27.1	23.5	95.5	S quad.	3.3	10	A.-Cu.	Cu.-N., N. SSW	192.8	d ◡ ●² a. ● ⌐◪ p.
30	54.23	24.8	25.8	22.7	97.3	SSE, S	2.3	10		N. S	120.1	●² a. ● d ◟ p.
31	53.24	25.5	27.5	23	94.3	SSE	1.5	9.8	A.-Cu.	N.,Cu.-N. SSW,S	20.1	●° a. d a. p.
Mean	755.73	26.6	30	23.5	87.9		1.3	7.6				
Total											978.5	

[a] The barometric readings of this station are not reduced to sea level.

Meteorological data for first and second class stations—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	752.37	24	27.5	23	96.8	SE quad.	1.3	10		N. S	46.7	●° a. ●² p.
2	54.27	27	32.7	23	82.2	SE quad.	.8	8.5	Ci.-S., A.-Cu.	Cu.-N. S	-------	● a. d p.
3	56.50	26.7	35.4	23.1	85.7	N	.3	7.7	Ci.-S. NE	Cu.-N. SW	39.3	♌° ◯° a. ● p.
4	57.01	26.6	34.1	22.8	87.5	Variable	.5	7.2	Ci.	Cu.-N. S	5.8	●° a. p. ⌐◹ ◟ p.
5	56.86	27.9	33.6	24.5	86	Variable	.7	8.2	Ci.	Cu.-N. NE	1	d a. p° ⌐◹ p.
6	57.80	27.1	34.3	22.6	84.8	Variable	.5	4.2	Ci., Ci.-S.	cu., cu.-N. NE, SW	-------	♌² a. ⌐◹ ◟ p.
7	58.28	27.4	35.3	23.4	84	S quad.	1	6.2	Ci.	Cu.-N. SE, NW	-------	♌° a. ┬ ◟ p.
8	57.76	26.8	35	22.2	85.3	SE	.8	6.5	Ci.-S.,Ci.	Cu.-N. S	-------	♌² a. ◯° ⌐◹° d° p.
9	57.02	28.1	36	23.8	79.8	Variable	.7	7	Ci.	S.-Cu. S	-------	♌° a. ◟ p.
10	57.23	26.2	30.6	24	87.5	NE	.2	8.3	Ci.-S.	Cu.-N. N	-------	♌° a.
11	56.95	25.4	29.6	23	90	N quad.	1.2	8.3	Ci.-S.	Cu.-N. NE	11.4	d² a. ● p.
12	55.70	26	31	22	88.3	N quad.	1.2	8.8	Ci.-S.	Cu.-N. N, NE	5.8	d° a. ● p.
13	54.69	27.1	35	22.6	82.8	S quad.	.8	8.3	Ci.-S.	Cu.-N. SW, NE	-------	d² p.
14	55.27	27.8	35.2	24	83	NE	.8	7.2		Cu.-N. NE	-------	d° a. ┬ ◟ p.
15	56.98	28	36.8	23.4	79.8	SE	1	4.7	Ci.	cu., cu.-N. SW, NW	-------	♌° a.
16	57.20	28.4	35.4	24.4	80	Variable	.7	7.3	Ci.-S., Ci.	Cu.-N. S, SE	-------	♌ a. ◟ p.
17	56.43	28.4	35.6	24.5	79.2	NE	.3	7.3	Ci.	Cu.-N. N	14	♌° a.
18	56.17	27.2	36.8	23.9	87.5	SE quad.	.7	7	Variable.	Cu.-N. SW	45.5	● a. ●² ⌐◹° p.
19	56.10	27.2	35.3	23.2	85	S, NW	.3	6.7	Ci.	Cu.-N. N	-------	≡ a. d° p.
20	56.61	28	35.8	24	79.7	NW	.7	7.7	Ci.-S.	Cu.-N. NW	-------	♌° a. d° ◟° p.
21	56.88	28.2	36.7	24	83.7	S quad.	.5	7.7		Cu.-N. SW	-------	♌° a. ◟° p.
22	56.71	28.3	35.5	24	79.3	N	.7	6.2	Ci.	Cu.-N. NW	-------	♌² a. ┬ ◟ p.
23	55.83	28.1	36.8	24	83	NE	.8	5.7	Ci.	Cu.	-------	♌² a. ┬ p.
24	56.12	28.3	36.1	24.5	82.7	SE	.7	7.2	Ci.-S.	Cu. SW	1.8	♌° a. ◡ ⌓ p.
25	55.84	26	31.3	23.6	90.5	NE	.7	9.7	Ci.	Cu.-N. E quad.	12.7	p d a. ● p.
26	53.78	27.3	34.6	23.3	83.5	Variable	.5	7.3		Cu.-N. N	-------	≡° a.
27	51.69	28.3	35.5	23.4	77.5	Variable	.7	6.3	Ci.-S.	Cu. SW	-------	♌° a. ◯² ◡° p.
28	50.60	28.2	36.1	24	81.7	SE	.5	8.5	Ci.-S.	Cu.-N. SW, N	5.6	● p.
29	50.91	29.1	36.5	24	74.8	S	.5	7.7	Ci.-S.	Cu.-N., Cu. SW	-------	◯° a. d p.
30	53.58	27.3	35.3	24.4	83.7	S quad.	.8	9.3		Cu.-N. SE	-------	d° p.
31	52.85	26.5	34.1	22.7	83.8	SE	.5	8.5		Cu.-N. SW	17.8	●² p.
Mean	755.55	27.3	34.5	23.5	83.8		0.7	7.5			-------	
Total	-------	-------	-------	-------	-------		-------	-------			207.4	

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	751.01	24.2	25.5	23.1	92.8	S	3.8	10		N.	60.1	●² a. ● p.
2	53.81	25.6	29.4	23.1	90.5	S	1.8	10		S.-Cu. SW	4.4	● a. ●° p.
3	56.13	26.8	32	23.5	84.2	S	1.7	8	Ci.-S. E	S.-Cu.	1.5	┬° ●° ◟ p.
4	56.60	27.2	31.5	23.1	83.7	NE	1.2	7.2	Ci.-S. E	Cu.-N. E	2.1	◠ p.
5	56.73	27.8	32	24.2	82.5	NE	1.3	3		Cu.-N. E	-------	● a. ◟ p.
6	57.61	27.8	31.7	23.6	81.8	NE	.8	2.7	Ci.	Cu.-N. N	-------	♍ ≡ a. ┬° ◟ p.
7	57.97	28	32	24.1	80.3	N	1.3	2.5	Ci.-S. W	Cu. S	-------	┬ p.
8	57.18	27.6	32.5	23.6	80.7	S	1.2	8.3	Ci.-S. E	Cu.-N. N	27.2	◯ a. ● p.
9	56.79	27.4	32.2	24	81.7	Variable	1.5	8.7	Ci.-S. E	S.-Cu. S	3.3	◟ p.
10	57.02	26.1	30.9	23.7	90	NE	.7	9.2	Ci.-S. E	S.-Cu. SW	15.5	● a. p. ┬ p.
11	56.92	25.1	28.1	22.9	91.3	Variable	.8	9.7	Ci.-S.	S.-Cu., N. E, NE	55.7	●ᵘ a.
12	55.47	25.2	28	23.5	90	N	.7	8.3	Ci.-S.	N. E	8.9	┬ ● a. ◠ p.
13	54.38	27	31.5	23.1	83.2	Variable	1	8.5	A.-Cu. E	Cu.-N., S.-Cu.	3.3	
14	54.98	27.4	31	24.1	83.3	N	1.2	4	Ci.-S.	Cu.-N. E	6.4	● a. ◠ ◟ p.
15	56.61	27.2	32.7	23.6	82.7	NE, SW	1	1.3	Ci.-S.	S.-Cu.	1.8	● a. p.
16	56.86	27.4	31.6	24.1	83.7	Variable	1.2	4.7	Ci.-S. SW	S.-Cu., Cu.-N.	-------	
17	56.01	27.6	29.8	24.6	83.2	Variable	1.2	8.3	Ci.-S.	S.-Cu. E	-------	
18	55.64	27	33.4	24.6	86	S quad.	.8	8	Ci.-S. W	S.-Cu. W	5.3	● p.
19	55.73	26.7	32	23.6	85.7	S quad.	1.2	4.8	Ci. E	Cu.-N. S	-------	┬° p.
20	56.37	27.8	32.4	24.6	83.5	S	1.2	8	Ci.-S. E	Cu.-N. SW	-------	
21	56.47	28	32	24.6	82.2	E, S	1.2	8.7	Ci.-S. E	Cu.-N. SE	-------	◟ p.
22	56.55	28	33	24.1	81.8	NE, W	1.2	5	Ci. E	Cu.-N. S, NE	-------	♌ a. ┬° ⌐◹ p.
23	55.57	28	33.4	24.2	83.2	SW, N	1.3	3.7	Ci. E	Cu.-N. S	3.8	● p.
24	56.04	27.8	31.5	24.6	85.8	N	1.2	5.3	Ci.-S. E	Cu.-N. NE, N	1.5	
25	55.52	26.1	29.5	24.7	88.8	N quad.	1.8	8.5	Ci.	S.-Cu., N. NE, N	3.1	⌐◹ a. ● a. p.
26	53.38	27.2	31.8	23.1	84.8	N	1.3	1.2	Ci.	Cu.-N. N	-------	
27	51.15	27.6	32	23.8	82.5	Variable	1	6.5	Ci. E	S.-Cu. W	-------	◡ p.
28	49.96	27.6	32	24.4	83.5	SW	1.2	9.5	A.-Cu. W	S.-Cu. W	-------	
29	50.42	28	31.9	25.1	78.3	SW	2.5	10	A.-Cu. SW	S.-Cu. SW, W	-------	◟ p.
30	52.90	26	29.4	24.2	90.3	SW	1.3	10	Ci.-S.	S.-Cu.	.8	●° p.
31	52.32	26.6	30.5	24.2	85	S	1.3	9.8	Ci.-S.	S.-Cu. W	-------	
Mean	755.16	27	31.2	23.9	84.7		1.3	6.9			-------	
Total	-------	-------	-------	-------	-------		-------	-------			204.7	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.4	21.3	97	77	1	9	------	
2	31.7	21.6	98	68	9	5	------	
3	29.6	21.1	96	87	10	10	11.7	☊ a. ● p.
4	30.6	21.6	93	79	10	10	------	d a.
5	31.1	21.5	96	77	4	9	8.6	☊ a.
6	32	21.1	97	71	1	4	------	☊ a.
7	32.4	21.7	96	83	9	10	3.8	☊ a. ┬ ● p.
8	30.1	21.6	96	81	3	9	13.7	☊ a. ● p.
9	31.1	21.4	96	71	1	9	------	☊ a.
10	31.1	21.6	97	78	1	5	.8	☊ a. p p.
11	31.6	20.6	95	74	2	3	------	☊ a.
12	30.8	21.6	96	74	10	9	------	☊ a.
13	31.3	21.8	97	73	1	5	------	☊ a.
14	31.1	22.1	96	81	2	9	------	☊ a.
15	32.2	22.1	97	75	1	10	17.3	☊ a. ● ┬ p p.
16	30.6	23.1	96	79	1	8	8.1	┬ ☊ a. ● p.
17	31.1	22.9	95	78	9	9	------	☊ a.
18	30.8	22.1	95	77	10	10	2	☊ a. ●° p.
19	30.1	21.6	96	77	2	10	4.1	☊ a. ●° p.
20	30.6	21.6	96	73	5	9	------	☊ a. ≤ p.
21	32.1	21.1	96	73	10	10	14.7	☊ a. ● p.
22	31	22.1	96	74	3	10	3.8	☊ a. ●° p.
23	32.1	22.1	97	72	10	9	------	☊ a.
24	31.6	22.1	96	67	2	4	------	☊ a. ┬ p.
25	32.2	23.1	96	74	10	9	------	☊ a.
26	31.8	21.6	96	68	10	10	------	☊ a.
27	32.2	21.6	96	77	10	7	.8	☊ p a.
28	31.8	21.7	95	81	10	3	------	☊ a.
29	32.1	22.1	96	75	3	9	7.1	☊ a. p p.
30	32.1	21.9	97	75	3	8	------	☊ a.
31	31.8	21.6	96	65	1	10	------	☊ a.
Mean	31.3	21.8	96.1	75.3	5.3	8.1	------	
Total	------	------	------	------	------	------	96.5	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.2	22.6	95	78	9	10	------	d p.
2	30	23.2	89	71	10	8	------	d p.
3	28.6	23.4	82	66	10	10	10.9	d p.
4	29.8	23.3	96	76	10	8	1.3	● a.
5	29.5	23.5	84	71	8	7	------	⌈⊿ a.
6	30	22.5	90	78	5	9	------	⌈⊿ p.
7	29.7	23.8	86	83	9	9	------	⌈⊿ p p.
8	29.6	23	88	68	9	9	------	
9	30.6	22.5	88	72	4	9	------	
10	29.8	22.9	93	72	4	9	------	
11	28.9	23.8	77	74	5	8	------	
12	29	24.4	86	79	10	10	------	
13	29.6	25?	87	75	8	10	------	
14	30.9	22.9	95	72	7	7	------	
15	31.1	23.9	91	70	7	7	------	
16	30.1	24.4	93	82	4	7	1	
17	30	23	91	73	10	3	------	●° a.
18	29.4	23.7	90	73	10	3	------	d° a.
19	29.8	23	90	75	3	9	------	
20	30.4	22.8	85	72	9	3	------	
21	26	22.4	93	93	10	10	11.7	● a. p° a. p.
22	29.1	22.2	90	82	6	10	14.7	● p.
23	29.6	22	95	77	10	10	------	
24	29.5	23.1	95	77	9	9	------	
25	30	23.2	93	82	7	9	------	
26	29.9	23.2	94	71	10	9	------	
27	30	23.4	88	73	4	7	------	
28	30.7	24.9	91	75	10	4	------	
29	29.6	25.6	85	77	5	9	------	
30	30.6	23.8	88	68	9	9	------	
31	30.6	24.2	85	72	5	8	------	
Mean	29.7	23.4	89.5	75.1	7.6	8	------	
Total	------	------	------	------	------	------	39.6	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6. a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28	22.2	97	79	8	9	------	
2	30.7	21.9	96	73	5	9	39.6	●² ⌈⊿² p.
3	29	22.2	97	73	10	6	------	d a.
4	29.4	22.7	96	77	6	5	------	
5	31.2	21.3	96	76	6	8	50.8	●² ⌈⊿² p.
6	29.9	21.9	96	78	10	9	------	d ⌈ p.
7	31	23.3	96	75	9	8	24.1	● ⌈⊿ p.
8	30.3	22	96	72	9	8	------	
9	31.3	22.6	96	68	8	7	------	
10	29.7	22.	96	72	8	6	------	
11	31.2	22.1	97	66	5	6	------	
12	32.2	22	96	63	5	6	------	
13	30.7	21.5	96	70	5	8	13.2	● ⌈⊿ p.
14	30.7	22.4	96	93	5	8	------	
15	30.9	22.3	96	78	5	5	------	
16	30.9	23.3	93	79	8	8	19.3	● p.
17	31.2	22	97	78	6	8	------	
18	30.7	21.9	96	71	8	6	------	
19	31.2	22.3	97	68	5	6	24.1	●² ⌈⊿² p.
20	30.1	22.3	96	73	7	8	6.9	● ⌈⊿ p.
21	29.6	22.7	96	73	10	8	------	
22	30.7	22.6	92	71	5	6	5.8	●° p.
23	29.7	22.9	96	67	8	8	------	
24	30.7	22.3	97	68	6	5	------	⊖ p.
25	31.7	21.9	96	70	5	7	------	⊖ ⊖ p.
26	31.7	22	96	67	5	6	------	⊖ ⊖ p.
27	32.2	21.5	96	72	5	6	------	⊖ ┬ p.
28	31.9	21.9	96	72	5	6	------	⊖ p.
29	31.2	21.9	96	69	5	5	5.1	●° p.
30	31.3	22.3	96	70	6	5	------	
31	31.7	22.6	96	66	9	7	------	┬ p.
Mean	30.7	22.2	96	72.5	6.7	6.9	------	
Total	------	------	------	------	------	------	188.9	

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.9	22	93	75	8	9	2	●° p.
2	31	23	95	67	9	7	7.6	≤° ●° p.
3	30	21.8	95	68	10	7	2.3	●° a. p. ≤ p.
4	28.2	22.4	95	75	9	8	2.3	●° a.
5	31.2	22.3	96	65	8	7	56.6	●° a. ●² p.
6	30	22.4	93	74	9	8	1.8	●° a. ≤ p.
7	30.2	22.8	95	68	9	7	6.4	●° a. ● p.
8	30.5	22.8	95	67	9	7	10.2	● p.
9	30.5	22.9	92	70	8	9	3.8	
10	30.3	23	93	71	9	7	------	●° a. ≤ p.
11	29.9	22.7	96	76	6	8	4.3	☊ a. ⌈⊿ ●° p.
12	27.9	22.8	94	87	9	10	11.7	⌒° ●° a. ● ⌈⊿ p.
13	30.6	22.5	96	71	9	8	------	≡° a. ⌒² p.
14	30.9	22.6	94	70	9	7	------	≤ p.
15	32	22.7	96	65	6	7	------	≡° ☊² a.
16	31.5	23.3	95	71	5	8	52.1	☊ a. ●² p.
17	31.6	22.1	95	62	9	5	11.2	≡° a. ● p.
18	31.5	21.8	95	66	10	7	------	≡° a. ≤ p.
19	32	22.7	95	66	6	7	3.8	☊ a. ●° p.
20	31.5	23.2	94	71	8	9	7.1	● p.
21	30.5	23.5	95	66	10	8	45.7	●² p.
22	30	22.1	95	73	10	8	15.5	● p.
23	30	21.8	95	65	9	9	------	⊖° ⌣ p.
24	31.2	22.5	92	67	10	7	------	☊ a. ⊖ ⌣ p.
25	30.6	23	92	71	6	8	------	☊ a. ≤ p.
26	32	22.4	92	57	9	5	------	☊ a.
27	33.2	22.2	95	63	4	6	------	☊ a. ⊖ ⌣ p.
28	33.4	23	91	53	4	5	------	☊ a. ≤ p.
29	32.1	23	91	67	7	6	------	⊖ ⌣ p.
30	32	22.2	93	62	7	8	.8	≤° a. ≤ p.
31	32.4	23	92	60	9	8	------	d a. ≤ p.
Mean	30.9	22.6	94	68	8.1	7.4	------	
Total	------	------	------	------	------	------	245.2	

Meteorological data for third and fourth class stations—Continued.

CAGAYAN.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	------	------	------	8	10	------	d a. p. ☾ p.
2	------	------	------	------	8	10	2.5	☾ p.
3	------	------	------	------	10	10	28.4	d a. ● a. p. ☾ p.
4	------	------	------	------	9	8	3.3	┼ ●° ☾ p.
5	------	------	------	------	7	6	50.8	☾ ●² p.
6	------	------	------	------	6	8	------	┼ ☾° p.
7	------	------	------	------	8	10	4.3	⊕ a. d ●° ☾ p.
8	------	------	------	------	10	7	------	d° a. ┼ p.
9	32.1	23.3	------	72	8	7	13.7	⊕ a. d ┼ ◠ ● p.
10	31.6	22.9	91	64	8	8	------	d a. ☾ p.
11	32.7	22.4	90	74	7	10	8.9	┼ ● ☾ p.
12	32	23	93	71	8	8	------	☾° p.
13	32.7	23.3	94	61	7	6	3.6	┼ ●° p.
14	32.7	22.2	91	72	6	6	8.9	● ☾ ◠ p.
15	32.3	22.1	92	71	5	6	------	☾ p.
16	32.1	22.8	92	80	4	8	------	d° ┼ ☾ p.
17	32	22.5	87	67	8	8	------	d° ☾ p.
18	31.5	21.9	90	68	7	8	------	d° ☾ p.
19	32	23	91	64	8	9	27.2	●² p.
20	31.6	22.7	97	62	6	8	------	┼ ☾ p.
21	31.5	23.4	92	72	8	7	23.9	●² ☾ p.
22	30.9	22.7	96	71	8	8	34	d° a. p. ● ☾ p.
23	30.7	23.5	97	71	9	8	.8	●° a.
24	31.2	23.6	91	68	9	7	2.3	● p.
25	32.5	22.2	90	64	8	8	------	⊕ a. ☾° p.
26	33.1	22.6	90	63	6	8	------	◯° a. d ☾° ⌣ p.
27	34.4	22.9	91	52	6	5	------	◯° a. d° p.
28	34.9	23.5	85	48	6	4	------	
29	32.5	24	82	77	4	9	------	d° ┼ ☾ p.
30	33.4	23.4	91	62	8	9	------	☾ p.
31	32.6	23.5	87	63	9	9	------	☾ p.
Mean	32.3	22.9	90.9	66.8	7.4	7.8	------	
Total	------	------	------	------	------	------	212.6	

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33	22.5	96	71	8	9	------	☊ a.
2	33.9	24	92	75	9	6	32.8	
3	31.6	22.8	97	75	10	7	------	☾ d ●² a.
4	31.3	22.6	96	75	9	5	------	☊ a. ☽ p.
5	32.7	23.5	96	75	4	5	------	◯ a. ┼ ☾ p.
6	33.2	23.2	97	68	6	4	------	☊ ☰° a. ☾ p.
7	33.5	23.6	97	67	7	5	19	☊ a. ☾ ● p.
8	31.6	23.8	97	77	10	8	------	☰° ☾² d a. ☾ p.
9	33.7	23	97	70	7	5	------	☊ a. d° p.
10	32.8	23	97	71	5	7	------	☊ a. ☾ p.
11	33.9	23.1	97	75	2	5	------	☊² a. ☾ p.
12	33.5	23.4	94	75	7	9	14	☊° ● a.
13	34.2	23.3	91	74	7	6	------	☊ a. ☾ p.
14	34.1	24.2	89	78	9	5	8.9	┼ d ● p.
15	33.2	22.6	98	76	4	6	------	☊² ☰° a.
16	33.7	23.9	96	77	4	5	1.3	☊ ☰° ☾ a. ● p.
17	33.5	23.3	93	75	5	4	2	☾ ●° p.
18	32.8	23.6	98	81	10	7	.8	●° a. ◠ p.
19	33.3	23	97	83	5	7	9.7	● p.
20	33.4	23.1	97	75	5	7	------	☊ a. ◯ ☾ p.
21	31.9	24.2	97	79	9	8	1.3	d a. ●° p.
22	32.9	23.5	96	80	6	5	14	☊ a. d a. p. ☄° p.
23	31.8	22.4	96	80	10	6	------	● d a.
24	32.4	23.1	97	81	8	9	------	☰ a. ⌣ p.
25	33.8	23.9	94	74	6	8	------	☊ a. ☾ p.
26	33.6	23.5	95	70	7	6	------	☊ a. ☾ p.
27	33.9	24.1	91	73	7	6	6.9	●° ☿ p.
28	33.5	23.5	97	70	5	6	------	☊ ☰ a. ⌣ p.
29	34	23.8	91	72	4	7	26.2	☊ a. ● ☾ p.
30	33.6	22.9	97	72	6	6	------	☾ ☾ p.
31	33.6	23.2	92	69	5	7	------	◯ a.
Mean	33.2	23.3	95.3	74.6	6.6	6.3	------	
Total	------	------	------	------	------	------	136.9	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.6	23.1	91	56	9	8	------	┼° p° p.
2	30.5	24	91	68	10	10	31.2	☊ a. ● ☾ ┼ p.
3	27.2	23	91	84	10	10	.3	┼ ● a. d° p.
4	29.7	23	94	69	9	8	8.1	●° a. ┼ ☾ d ● p.
5	31	23.2	95	61	7	5	------	☊ a. ☾ p.
6	31.5	23.4	93	66	6	8	1.3	☊ a. ┼ ☾ p.
7	30.6	23.9	90	68	10	7	11.7	●° a. d ◠ ┼ p.
8	30	23.5	96	68	10	8	8.6	● a. d a. p.
9	30.1	23.4	94	67	10	7	------	● a. ┼ ☾ d p.
10	30.9	23.5	96	67	10	6	------	☊ a. p° ☾ ┼ p.
11	31.6	23.2	96	60	2	6	------	☊ a. ☾ p.
12	31.5	24.1	91	70	7	5	.8	☊ a. ┼² ●° ☾ p.
13	32.1	23.4	93	52	9	4	------	☊ a. ☾ p° p.
14	33.2	24.1	92	54	6	5	------	☊ a.
15	32.7	23.6	93	64	3	7	------	☊ a. ┼ ☾ p.
16	33	23.6	89	66	2	8	7.9	☊ a. ● ☾ p.
17	31	23.6	95	75	8	9	------	☊ a. ☾ p ◠ p.
18	31	23.4	99	71	9	7	.5	☊ a. ●° ☾ p.
19	31	23.1	95	68	1	7	------	☊ a. p° ☿ ☾ p.
20	30.7	24.4	91	63	10	7	.5	☊ a. ┼ ●° ☾ p.
21	29	24	93	79	10	9	24.1	☊ d a. ● ┼ p.
22	29.5	23	96	72	8	8	13	☊ a. ┼ ● p.
23	28.7	23.4	93	67	10	9	3	● a. d p.
24	29.3	24.1	83	72	10	10	------	☊ a. ☿ ⌣ p.
25	30.7	24	96	62	9	9	------	☊ a. ◯ ⊕ ⌣ p.
26	31.5	23.8	92	60	9	7	------	☊ a. ⊕ ☾² ┼° ⌣ p.
27	33.3	24.1	91	62	7	7	------	☊ a. ◯ ┼ ☾ p.
28	33.5	24	92	62	7	6	1.5	☊ a. ┼ ◠² ●° p.
29	31.5	23.4	90	62	7	7	2	☊ a. ●° ☾ p.
30	30.1	23.6	92	66	8	10	------	☊ a. ◯ ☾ p.
31	31.3	23.8	90	62	8	9	------	☊ a. ◯ a. p. ☾ p.
Mean	30.9	23.6	92.7	65.9	7.8	7.5	------	
Total	------	------	------	------	------	------	114.5	

DUMAGUETE.

[ϕ=9° 18′ N; λ=123° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.2	24.2	81	71	7	10	------	
2	32.1	23.7	86	71	10	9	------	◯² a. ⊕ d° p.
3	31.2	24.8	80	75	10	10	------	d p.
4	29.5	23.2	93	75	10	10	------	
5	31.2	23	91	79	10	8	------	d ☾ p.
6	31.4	22.6	83	83	5	8	28.2	● a. ◯° p.
7	31.4	22.7	84	77	10	8	.5	☊ a. ◯ d ◠ p.
8	30.6	24.1	91	80	10	10	------	d² a. ☾ a. p. d p.
9	31.6	24.3	92	69	10	9	.5	☊° a. d ☾ p.
10	31.8	23.6	97	79	10	7	------	☊ ◯ a.
11	33.7	22.4	93	71	4	7	1.1	☊ a. d² ☾ p.
12	31.6	24	90	66	10	8	2	●° a. p.
13	32.6	23.9	86	69	10	5	------	◠° a. ⊕° ☾ d.
14	33.4	24.7	82	69	10	8	------	
15	33	23.4	89	71	10	8	------	☊ a. ☾° p.
16	31.6	23.2	84	82	3	8	8.6	☾ ☊ a. ● ☾ p.
17	31.4	23.2	98	76	7	4	4.6	☊² a. ●° ☾ p.
18	31.5	23.2	97	73	8	5	3	d a. ●° ☾ p.
19	29.8	23.2	92	90	5	8	1	☊° d a. ☾° p.
20	32.6	23	93	63	7	6	2.8	☊² a. ◯ ●° ☾ p.
21	30.5	23.8	93	80	10	10	.5	☊² a. ●° p.
22	31	23	92	77	10	9	20.1	☊ a. ● p.
23	29.4	23.4	98	82	10	9	------	☾ p.
24	30.4	23.4	97	78	10	10	------	☊ d a.
25	32.8	24.5	92	82	10	10	------	d ☾ a. ⌣° p.
26	32.5	23.2	88	79	9	8	------	☊° d° a. d p.
27	31.6	24.2	85	82	10	10	------	d a. ☾° p.
28	32.6	26.4	88	72	10	8	------	◯ a. d° ⌣° p.
29	31.8	25.4	78	68	7	10	------	☊ ☾ d° ◠ a. d ☾ p.
30	33.6	23.6	83	70	10	10	------	☊ ◯ a.
31	32.6	23.8	87	68	9	10	------	☾ ◯ a. ☾ p.
Mean	31.7	23.7	89.1	75.1	8.7	8.4	------	
Total	------	------	------	------	------	------	72.9	

Meteorological data for third and fourth class stations—Continued.

YAP (WESTERN CAROLINES).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	25	87	74	10	10	9.4	☾ ● a. ● p.
2	------	23.1	83	81	10	10	1.3	● a. p.
3	------	24.1	87	70	9	10	------	
4	------	23.3	95	66	10	8	------	
5	------	24.5	84	90	10	10	7.2	● p.
6	------	22.8	88	76	10	10	------	
7	------	23.6	89	96	10	10	29.4	● a. p.
8	------	23.9	88	69	7	8	.3	
9	------	24.9	93	70	10	9	81	p. a. ●² p.
10	------	22.9	91	78	10	10	1.8	●² a.
11	------	25.2	85	90	10	10	18.6	● a. ☿ a. p.
12	------	23	81	75	10	10	4.6	● d a.
13	------	23.8	92	75	10	10	2	● a. p.
14	------	24.6	92	72	1	6	------	♌ a.
15	------	23.2	90	94	10	10	41.1	♌ ●² a. ● p.
16	------	24	95	68	10	10	------	☾ p.
17	------	24.5	91	68	2	2	1.3	♌ a.
18	------	24.5	92	75	2	10	------	● a.
19	------	24.5	89	84	7	9	1.5	♌ ● a. d ♉ p.
20	------	24.9	88	69	9	9	5.8	♌ a. ♉ ☾ p.
21	------	22.9	96	87	10	10	65.6	●² a. ♁ ☾ p.
22	------	24.3	88	86	10	10	38.1	p a. ●² ☿ ☾ p.
23	------	22.9	88	75	10	10	22.1	p a. ● ☾ p.
24	------	21.9?	93	78	10	9	13.3	p a. ● a. p.
25	------	22.2?	92	80	9	9	1	♐ a. ● p.
26	------	23.6	85	69	9	9	------	
27	------	25.8	80	74	10	10	28.4	
28	------	22.5?	84	79	10	10	------	● a.
29	------	25.4	91	72	10	9	.8	● p.
30	------	22.9	95	84	10	10	------	
31	------	25.5	88	86	10	10	16.5	● a. d ● p.
Mean	------	23.8	89	77.7	8.9	9.3	------	
Total	------	------	------	------	------	------	39.1	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.5	22.6	88	82	10	10	------	d a. p. ☾² p.
2	31.5	24.6	93	76	10	10	------	d p.
3	31.5	24.6	92	85	10	10	33	♐² d a. p. ● p.
4	32	23.6	93	76	10	10	------	☾² p.
5	32.6	23.7	92	85	10	10	------	
6	33	23.6	93	83	10	10	------	
7	30	23.5	92	83	10	10	22.4	d ♐² ● p.
8	30	23.3	89	82	10	10	9.7	☿² a. d a. p. p p.
9	30	22.9	87	86	10	10	13.5	d ♐² a. ● p.
10	30	22.8	86	80	10	10	57.9	d² ☿² ●² p.
11	30	22.9	90	87	10	10	65.8	d ●² ☿ p.
12	30	22.6	90	82	10	10	------	d ☿² ☾² p.
13	30.2	22.8?	92	84	10	10	------	
14	30.1	------	92	83	10	10	10.4	● p.
15	30.8	22.4	91	83	10	10	55.9	d ☾² ●² p.
16	31	24.4	94	83	10	10	8.9	☾ d² ☿² p.
17	31	24.2	92	85	10	10	27.9	● p.
18	31	24	93	88	10	10	------	d a.
19	29.6	24.1	87	88	10	10	------	
20	30.6	24	91	83	10	10	40.4	☾ ●² ♐ p.
21	30.7	22.4	91	89	10	10	------	d ☾ ☾ ☽ p.
22	30.6	22.4	87	83	10	10	25.4	● a. p. ☾ d ☾ p.
23	30.6	------	90	87	10	10	------	d a.
24	30.7	------	92	85	10	10	4.6	d p p.
25	30.7	------	85	85	10	10	------	☾ ☽ ♉ p.
26	30.6	------	84	78	10	10	------	d a. ☾² ♉ ☾ p.
27	30	24	91	79	10	10	------	☾ ☽ ♉ p.
28	30.4	25.6	92	83	10	10	------	☾ ☽ ♉ p.
29	30.4	24.6	87	77	10	10	------	d ☾ ♉² ☾ ☾ p.
30	30.2	24.6	92	82	10	10	------	d ☾ ☽ ♉ p.
31	30.3	24.2	94	81	10	10	------	d ☽ ♉ ☾ p.
Mean	30.7	23.6	90.4	83	10	10	------	
Total	------	------	------	------	------	------	375.8	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.9	22.9	91	81	10	10	20.6	☿
2	28.9	21.9	96	77	10	10	20.3	☿ ● a. ●° p.
3	28.8	22.4	95	81	10	10	24.4	●° a. ☾ d. ● p.
4	27.8	22.4	92	89	10	10	2.8	● p.
5	30.8	22	93	76	10	4	10.4	●° a. d a. p. ☾ p.
6	31.3	23	96	73	10	9	------	● a. ☾ p.
7	31.3	23	91	87	10	10	.5	♌² a. d² p.
8	31.8	22.5	95	69	10	10	.3	●° a. p. ☾ p.
9	28.8	24.1	96	91	10	10	12	● p.
10	30.7	23	96	81	10	10	1	d ● a. ●° p.
11	29.9	23.6	97	79	5	10	54.1	d² a. ☾ ●² p.
12	29.4	22.1	98	87	10	10	13.5	● a. p p.
13	28.8	23.5	92	87	10	10	34.8	p ☿ a. p. ☾ p.
14	27.9	22.4	96	97	10	10	46.2	● a. p. ☿ p.
15	29.7	23.4	98	84	10	10	13.4	● a. p.
16	31.9	23.1	95	85	8	10	.5	●° p.
17	31.3	23	96	78	8	8	63.7	d² ● a. d ●² p.
18	30.2	22.9	97	82	10	10	56.9	☾ d² ●² p.
19	29.9	23	97	77	10	10	32.8	● a. p.
20	31.3	22.7	97	92	8	10	8.4	● d p.
21	29.8	23.4	96	88	10	10	43.9	d a. ● a. p.
22	30.3	22.9	97	84	10	10	43.2	d² a. ● p.
23	30.5	23	96	75	10	9	39.6	● a. p.
24	27.4	22.6	97	86	10	10	32.5	d ●² a. ● ☿ p.
25	31.4	22.5	96	78	10	9	14.5	● ☿ p.
26	29.8	22.1	96	88	10	10	60.4	p² a. ☾ a. p. ☿ ●² p.
27	28.3	------	95	89	10	10	19.8	♐ ●² a. ☽° ● p.
28	29.9	------	86	81	10	10	40.2	● a. p. ☾ p.
29	28.3	------	88	92	10	10	1.6	● a. p.
30	30.8	25.4	87	81	10	10	------	
31	30.7	26.6	88	77	10	10	7.6	d² a. ☾ p ☾ ☿ p.
Mean	29.9	23	94.4	83	9.6	9.6	------	
Total	------	------	------	------	------	------	719.9	

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.5	24.9	83	78	10	10	50.8	d° ●² ♐ p.
2	27.6	23.2	97	92	10	10	26.4	● a. p. ☿ p.
3	30	22.2	92	80	10	10	20.6	● p.
4	26.1	23.6	95	97	10	10	34.1	● a. p.
5	31	22.3	98	78	10	8	30.4	● a. p.
6	31.7	23.3	97	75	8	8	------	☾ p.
7	29.7	24.1	96	80	9	9	------	p p.
8	30.8	23.9	97	77	9	9	4.6	♌ ≡ a. ●° ☾ p.
9	31.7	24.3	96	75	10	9	4.8	p° a. ●° p.
10	31	23.7	97	76	9	9	22.6	● p.
11	32.3	24.1	93	70	8	8	34.8	♌ a. d² ●² p.
12	31.3	23.9	89	72	9	8	20.8	● p.
13	27.7	24	93	94	9	10	79.8	●° a. ●² ☿ p.
14	26.2	24.6	95	97	10	10	28.4	☾ a. ● a. p. ♐ p.
15	30.6	24.3	98	80	10	10	------	p a.
16	31.7	24.7	98	81	10	9	------	d° p.
17	30.5	24.5	96	79	9	9	21.1	☾ p ● p.
18	29.9	24.3	97	89	9	9	37.9	● ♉ p.
19	28	24.2	96	82	10	10	5.8	● a.
20	32.3	24.6	96	73	9	8	16.8	☾ ● p.
21	29	24.4	94	92	10	10	24	d° a. ● p.
22	30.2	24	96	84	10	10	46.2	●² p.
23	30.1	22.9	92	84	10	10	4.6	d a. p d² p.
24	29.3	23.7	97	81	10	10	3	●° a. p. ☿ p.
25	32	23.7	95	------	10	9	3.8	●° p.
26	32.4	24.5	93	------	10	9	15.2	♐° ● p.
27	30.7	24.9	93	86	10	10	4.5	p a. p.
28	31.6	24.3	90	88	10	10	8.2	● p.
29	32.8	24.9	90	------	10	9	6.9	☾ p.
30	32.5	25.6	94	------	9	8	------	● a.
31	32.2	26.5	90	------	10	10	2.4	● p.
Mean	30.4	24.1	94.3	82.3	9.6	9.3	------	
Total	------	------	------	------	------	------	558.5	

Meteorological data for third and fourth class stations—Continued.

GUIUAN.

[ϕ=11° 03′ N; λ=125° 43′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.7	25.4	77	74	8	7	------	☾ p.
2	29.3	27.2	78	78	9	10	0.5	☩ a. p. d° p.
3	28	25.9	90	87	10	10	------	
4	30.7	26.5	79	74	9	4	------	☽² a. ☾ p.
5	31.1	23.1	93	75	4	2	2.8	⊤ ♌° ☾² p.
6	30.7	23.8	82	74	9	7	14.7	●° a. ☈ ● p.
7	31.2	22.6?	94	73	9	8	5.1	♌² a. ☈ ●° p.
8	28.9	23.6	92	77	10	9	51.3	d° ☩ a. ●² ☾² p.
9	29.8	22.5?	89	76	8	8	------	☩ a. ☽° ☾² p.
10	28.8	23.8	79	87	9	9	------	
11	31.4	23.3	84	74	1	5	3	☽² ☈ ●° p.
12	30.2	24.8	79	77	7	8	------	☾° ☾² p.
13	29.9	27.5	76	78	5	6	------	☾° a. ☾ p.
14	30.2	27.6	80	78	8	6	------	☽² p.
15	30.8	26.8	78	74	8	2	------	☾ p.
16	32.2	24.3	85	76	2	7	5.6	☈ ●° p.
17	31.7	25.6	88	73	3	2	4.6	d a. ☈ ●° p.
18	29.7	24.1	91	82	10	8	3.3	d a.
19	31.1	24.2	92	75	4	3	------	●° a.
20	30.2	24.1	86	74	9	5	------	⊤ ☾² p.
21	28.2	24	93	87	9	9	66.2	●² a. ☽² ☾ ● p.
22	30.1	25.2	88	78	9	9	2.8	● a. ☽° ●° p.
23	30.7	23.4?	87	76	10	9	21.3	☈ ● p.
24	29.7	24.2	83	79	9	9	------	☽² a. ☾° ☾ p.
25	30.4	27.2	77	69	10	9	------	☾² p.
26	30.6	27.3	75	72	8	8	------	☽² a. p. ☾° ☾° p.
27	30.1	27.6	82	83	9	6	------	☽² a. ☾° a. p. ☾² p.
28	30	27.4	82	79	9	4	------	☾° a. p.
29	30.7	27.7	84	84	8	3	------	☾ p.
30	30.8	27.3	74	81	8	8	------	☾° a. ☽² a. p.
31	31.1	27.7	79	85	10	9	------	☽² a. p. ☾° p.
Mean	30.3	25.3	83.7	77.7	7.8	6.7	------	
Total	------	------	------	------	------	------	181.2	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.7	22.4	79	63	6	6	------	d p.
2	31	23.3	95	70	9	8	8.6	☰° a. d ● p.
3	28.1	23.4	93	86	10	10	1	p a. d ●° p.
4	33	23.3	97	61	8	6	.8	☽° ●° p.
5	32	22.7	97	73	4	6	1.8	☰ d° a. ●° ⊤ a. p. ☾ p.
6	33	23.9	97	78	8	7	1	☰ a. ⊤ ●° a. p. ☾ p.
7	31.6	22.1	97	88	6	9	11.4	☰ a. ☈ ● p.
8	31	23.4	97	90	9	10	22.7	☾ a. ● a. p. ⊤ p.
9	30.3	23.2	95	76	6	8	10.2	☰ ☽ a. ● p.
10	30.7	23.2	97	87	8	9	5.8	♌ ☰ a. ● ☾ p.
11	32.6	21.9	98	79	3	8	1.5	♌ ☰ a. ●° ⊤ ☾ d p.
12	32.8	24.7	79	59	5	6	------	☾ p.
13	33.1	23.8	86	62	5	8	------	♌ a. d p.
14	33.4	22.6	94	59	7	7	.5	♌ a. ●° p.
15	33.6	22.4	97	61	7	7	------	☾ p.
16	31.6	22.8	95	74	2	7	3.3	♌ ☰° a. ●° ⊤ ☾ ☋° p.
17	32.6	22.6	97	79	2	8	2.3	♌ ☰ a. ●° ⊤ ☾ p.
18	30.2	23.6	95	80	8	9	2.3	●° a.
19	31.2	22.4	97	80	4	7	23.4	● a. ⊤ a. p. ● ☋ p.
20	31.6	22.8	98	74	7	7	26.2	♌ d a. ● ⊤ ☾ ☋° p.
21	31.6	23.3	97	65	8	8	.3	☰ a. ●° a. p. ☾ p.
22	30.6	24	91	79	9	8	2	●° p° ☾ d p.
23	31.6	22.6	93	65	6	7	------	☩ ☾ p.
24	29.2	23.4	94	73	7	9	------	d p.
25	31.6	25.4	78	64	8	8	.8	d° a. ●° p.
26	32.5	23.7	92	56	7	7	------	☩² a. d ☋ p.
27	32.8	23.2	94	59	6	6	------	☾ p.
28	33.4	25.2	78	52	3	6	------	☾ p.
29	34.2	22.3	93	66	3	5	------	♌ a. ☾ ☾ p.
30	33.3	22.6	98	56	4	6	------	♌ ☰ a. ☽° p.
31	33.2	25.4	86	56	7	8	------	♌ a.
Mean	31.9	23.3	92.7	70	6.2	7.5	------	
Total	------	------	------	------	------	------	125.9	

MASBATE.

[ϕ=12° 22′ N; λ=123° 36′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	23.6	89	77	10	10	------	
2	29.6	26	94	76	10	10	17.3	
3	29.5	25	88	81	10	10	.3	
4	30	25	92	71	10	9	------	
5	31.6	25.6	92	71	7	8	14.7	
6	31.4	24.6	92	65	8	6	------	
7	30.6	26	88	92	7	10	62	
8	29.4	23.2	94	81	8	9	12.4	
9	28.6	24.5	96	92	10	10	5.4	
10	27.5	23	95	84	10	9	26.4	
11	30	24.2	90	72	7	9	8.6	
12	29.6	25	87	74	9	9	1.8	
13	29.4	24.6	92	92	9	10	11.4	
14	30.2	24.5	91	81	9	9	------	
15	30.2	25.6	94	82	10	10	.8	
16	31	26	95	92	8	10	15	
17	29.2	26.2	92	89	10	9	5.1	
18	29	25.2	92	98	8	10	13	
19	27.8	24.6	98	96	9	10	16	
20	30.8	24	97	89	5	9	8.3	
21	28.6	25.6	96	90	9	7	3.8	
22	30.2	24.5	95	79	8	9	1.5	
23	28.5	25	96	84	10	10	1	
24	28.6	25.6	90	80	9	9	------	
25	29.2	26.6	84	75	10	10	------	
26	30.5	25	89	70	9	6	.8	
27	30.2	25.4	92	88	7	10	4.1	
28	29.6	25	88	85	10	9	1.1	
29	30.2	26	92	74	8	7	3	
30	29.5	26.2	85	73	8	10	------	
31	29.5	27.2	82	75	9	10	.5	
Mean	29.7	25.1	91.2	81.5	8.7	9.1	------	
Total	------	------	------	------	------	------	234.3	

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	22.7	82	76	10	10	2.5	p p.
2	30.6	23.4	80	80	10	10	2	p° a. p.
3	31.8	24.7	80	70	9	10	.8	p° p.
4	30.7	23.4	87	75	10	10	------	d a.
5	33.6	24.9	85	60	8	2	------	
6	33.2	24	84	64	3	3	------	☈° p.
7	34.8	23.5	92	63	4	8	.3	♌ a.
8	33.3	23.8	96	69	8	9	1.5	d a. d° p.
9	32.1	24	95	73	10	10	------	d a. d° p.
10	33.7	23.5	92	68	10	8	------	d° a.
11	33.6	25.2	79	70	5	9	1.8	p p.
12	33.6	24.4	81	62	10	9	16.5	● d p.
13	30.8	23.8	76	70	6	9	7.9	●° d a. p.
14	33.4	23.3	83	65	9	9	------	p° p.
15	32.2	24.7	87	72	10	10	1	d° a. ●° p.
16	34.6	25.5	87	65	4	4	------	
17	32.5	24.8	81	66	10	7	1	●° a.
18	32.6	24.3	89	69	5	10	------	d° p.
19	33.6	24.8	83	66	6	4	------	
20	34.7	24.6	85	62	6	5	------	
21	32.2	25.2	88	71	10	8	------	
22	33.5	25.3	88	66	5	9	------	
23	32.7	24.5	82	68	10	10	------	d° a.
24	32.3	25.2	79	65	10	10	------	d° a. p.
25	29.7	25	82	74	10	10	9.7	d° a. d p.
26	31.2	24	84	77	7	10	13.4	d° a. ● ⊤° p.
27	32	23.8	83	81	9	10	9.1	d a. d° ●° p.
28	29.8	24.2	91	79	10	10	11.4	d a. ● a. p.
29	34	25	86	67	10	9	1.8	d ●° a. d° p.
30	30.8	23.8	88	75	10	10	12.7	●° a. d° p.
31	31.1	23.9	82	74	10	10	16	● d° a. p. ☈° p.
Mean	32.4	24.3	85.1	69.7	8.2	8.5	------	
Total	------	------	------	------	------	------	109.4	

Meteorological data for third and fourth class stations—Continued.

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.4	24	96	71	10	7	------	d° p.
2	33.4	23.7	93	66	10	10	1	d° ●° p.
3	31	24	92	83	10	10	------	●° a. d° p.
4	30.4	23.9	88	68	7	8	------	
5	32.7	23.4	91	66	3	4	11.7	⌒ ⌐⊻° ● p.
6	32.9	23.7	96	78	4	7	------	⊤ ↘° p.
7	32.3	23.5	95	66	4	5	5.1	↘ ●° p.
8	33.1	23.8	95	70	6	6	3.8	●° a. p.
9	31.9	24.5	96	92	10	10	4.1	●° a. p. d p.
10	31.8	23.1	95	85	6	9	1	●° p.
11	31.1	24.1	94	78	2	8	11.4	↙° p° ● p.
12	31.8	24.1	85	71	3	8	1	↘ d p.
13	31.7	23.6	92	72	8	6	7.1	●° a. ↙° ● ⌐⊻° d p.
14	32.4	23.7	84	66	3	8	------	
15	32.6	24.2	92	71	5	9	------	○° p.
16	31.9	23.2	96	70	3	4	1.5	⊤ d° ●° p.
17	32.8	23.7	93	76	3	4	8.4	d ● ⌐⊻ p.
18	33.3	24.2	96	95	10	10	7.4	d ●° a. p.
19	29.1	23.3	96	84	2	7	18.3	● a. ⊤° d ●° p.
20	30.1	23.2	92	90	2	9	2	●° a. ⊤ d° ↘ p.
21	32	23.7	96	92	3	10	5.9	d ●° p.
22	32.6	23.8	97	80	8	10	2.5	⊤° d° ●° p.
23	32.1	23.7	94	77	10	9	------	↺ p.
24	31	24	85	82	10	10	------	d° ↺ p.
25	28.9	25.2	90	74	10	10	------	
26	30.9	25.6	83	63	9	7	------	⊐ d° p.
27	32.3	25	88	66	3	6	------	↘ p.
28	32.2	26.1	81	58	10	5	------	↺² p.
29	33.4	24.7	86	65	9	9	------	
30	33.1	26.1	80	65	8	10	------	⌒° a. d° p.
31	31.6	26.1	83	71	10	10	.5	⊤° p.
Mean	31.9	24.2	91	74.5	6.5	7.9	------	
Total	------	------	------	------	------	------	92.7	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.3	24.5	94	76	8	10	------	
2	29.3	23.8	95	81	9	10	8.1	●° p.
3	29.6	24.1	96	81	10	10	5.1	●° a.
4	32.9	23.4	97	71	9	10	------	●° a. d p.
5	33.8	24.3	93	65	7	9	------	
6	33.7	24.3	93	62	8	8	------	
7	34.3	24.9	94	72	7	10	------	⊤ a. p.
8	30.7	24.2	96	71	8	8	------	
9	30.5	24	94	75	10	8	2	d a.
10	32.4	23.6	92	71	8	8	1.5	
11	33.6	24.2	93	67	9	10	17.8	d a. ● p.
12	30.8	23.9	93	89	8	8	9.6	● a. p. d p.
13	31.5	24.1	97	86	10	10	3.8	●° p.
14	32.7	24.8	87	69	8	10	------	
15	32.7	34.1	92	70	9	7	------	
16	33.4	25.4	92	63	8	8	22.4	● p.
17	33.3	24.7	95	67	5	6	------	● a.
18	30.1	25.1	92	85	8	10	------	
19	32.1	24	94	81	7	8	6.1	● a.
20	33	24.5	96	67	8	8	------	
21	31.9	24.6	94	89	8	10	10.7	● a. p. ⊤ p.
22	33	24.4	96	74?	7	10	7.4	
23	31	23.9	96	72	8	10	------	● a.
24	29.5	24.2	96	83	9	8	------	
25	30.3	25.4	90	76	10	10	------	
26	32.3	25.6	87	66	10	8	------	
27	33	25.7	88	68	9	10	3	p p.
28	31.8	25.4	92	74	7	10	6.6	p a. ⌒ ● p.
29	32.2	24.4	92	72?	7	7	------	↺ p.
30	29.1	25.8	90	77	10	10	------	
31	30.9	26.3	86	76	10	10	57.1	●² ⊤ p.
Mean	31.8	24.6	93	74.1	8.4	9	------	
Total	------	------	------	------	------	------	161.2	

SUMAY, GUAM (LADRONE ISLANDS).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	24.8	92	90	10	10	29.2	
2	29.4	24	92	85	8	10	3.8	
3	29	24	97	84	10	10	17.7	
4	30	24	92	71	8	10	19	
5	30.6	24.4	95	69	10	10	------	
6	31	24	86	71	10	10	1.3	
7	29.4	24.4	92	87	5	10	60.9	
8	30	24.8	90	75	6	9	12.7	
9	28.4	24	97	95	10	10	29.2	
10	29.6	24	92	85	10	10	12.7	
11	30	23.8	92	78	6	6	7.6	
12	30.4	23.4	95	67	10	10	5	
13	30.8	25.6	89	77	7	6	------	
14	32	24.6	87	71	6	5	------	
15	32.4	24	84	65	6	5	6.4	
16	28	24	92	84	10	10	2.6	
17	30	24	92	71	10	10	2.5	
18	31.2	24	87	72	6	8	2.5	
19	31	24	92	71	6	8	------	
20	32	24	92	65	6	8	2.5	
21	30	24.8	90	74	10	10	1.3	
22	30	24.8	87	74	10	10	5.1	
23	30	24.2	92	77	10	10	14	
24	29	23.8	92	80	6	10	11.5	
25	30	24.8	92	71	10	10	5.1	
26	30	24.2	84	76	10	10	88.9	
27	28.2	23	89	91	10	10	57.2	
28	28	22.6	92	84	10	10	71.1	
29	28.8	23	84	------	10	10	33	
30	30	22	------	85	10	10	14	
31	29.8	23	92	74	10	10	------	
Mean	29.9	24	90.7	77.3	8.6	9.2	------	
Total	------	------	------	------	------	------	516.8	

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.3	22.7	98	78	10	10	5.6	d a. p. ⊤ p.
2	31.1	23.1	96	82	10	10	3.9	p° p.
3	32.5	23.1	97	73	10	10	1.3	d p.
4	32	23.7	97	80	10	10	------	
5	32.1	22.9	98	71	9	10	------	⊤ p° p.
6	33	23	97	71	8	9	------	
7	32	22.1	93	81	9	8	------	
8	31	24	91	77	9	10	1.5	d p.
9	30.8	23.5	97	75	10	10	------	⊤ ●° p.
10	29.8	22.5	96	81	10	10	.3	●° p.
11	30.7	22.5	97	82	10	10	1.5	●° p.
12	31.1	23.1	95	90	10	10	10.4	●° a. p. d p.
13	26.6	23	99	94	10	10	25.7	● a. p.
14	31.7	22.8	99	78	10	10	.8	p° a. ↙° p.
15	31.9	24	86	79	10	10	1.8	p p.
16	31.7	23.4	98	84	10	10	------	⊤ p.
17	30.5	22.5	97	78	10	10	.3	●° p.
18	31.2	22.5	97	77	10	10	------	
19	30.7	23.1	92	89	9	10	.3	⊤ ●° p.
20	31.6	22.1	98	79	10	9	13	⊤ p² p.
21	31.2	23	99	77	10	10	2.8	p° p.
22	32.5	22.9	97	81	10	10	.3	●° p.
23	32.4	24	93	77	10	10	------	
24	31.7	23.5	98	76	10	10	------	⌒° a.
25	32.1	23.5	91	76	10	10	4.1	●° p.
26	28	23.1	98	88	10	10	16	d° a. ●° p.
27	28.1	23	98	88	10	10	3.8	d a. p. ●° p.
28	27.8	23.4	100	91	10	10	1.3	d a. p.
29	31.5	23.6	97	76	10	10	------	
30	34	23.3	88	60	10	10	------	
31	32.3	25	80	66	10	10	74.4	●° a. ●² ⌐⊻ p.
Mean	31.1	23.2	95.4	79.2	9.8	9.9	------	
Total	------	------	------	------	------	------	169.1	

Meteorological data for third and fourth class stations—Continued.

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.5	24	91	85	10	10	------	p° p.
2	31.8	24.4	96	79	10	10	7.9	d ⊤° ●° ≤ p.
3	29	23.6	97	88	10	10	1.8	●° a. p. d° p.
4	31.5	23.5	96	79	9	10	------	
5	32.1	22.5	97	81	2	7	1	♌² ≡ a. d ≤ p.
6	32.2	23.4	96	78	6	7	.3	⊤ d ⌒° ≤° p.
7	33.5	23.4	97	77	6	9	------	≡ a. ⊤ ≤ p.
8	30.5	22.9	97	81	10	9	.3	♌ a. d° a. p.
9	29.5	23	97	85	10	10	2	d° a. p.
10	30	22.5	98	96	9	10	6.4	♌ a. ≤° ●° d° p.
11	30.5	23	98	84	7	10	2	●° a.
12	31	24	95	82	10	10	2.8	●° a. p. p° ≤° ⊤° p.
13	30	24	95	85	10	10	.5	●° a. d° a. p. ⊤° p.
14	29	24.8	92	92	10	10	.5	p° a. p. ●° ⊤° p.
15	31.2	24	93	85	10	10	2.5	d p p.
16	33.1	23.9	97	82	10	5	3	≡ a. ●° d ⊤ p.
17	33.4	23.5	98	79	10	4	1.3	●° ≡° a. d ⊤ ≤ p.
18	29	23.4	98	86	9	10	.5	p° a.
19	31.5	24.4	98	80	9	7	.5	d a. p° p.
20	31.2	23.4	97	92	10	9	58.4	●° a. ≤ ⊤² ●² p.
21	31.4	23.2	98	77	5	7	5.6	●² a. ●° ⊕° p.
22	30.4	23.2	97	80	10	10	16.5	p a. ●² ≤° ⊤ ⊕° p.
23	30	23.4	98	76	10	10	.8	●° ⊕° ⊂ p.
24	29.4	24.2	95	78	10	10	2	●° ⊤ p.
25	29.3	23.8	86	91	10	10	1	●° ⊤° ⊂ ⊕° p.
26	29.5	24.6	92	95	10	10	5.1	p° a. p. ⌒ ● ♃° ⊂ p.
27	29.4	23.8	90	87	10	10	5.6	d p a. ●° ⊂ ⊕° p.
28	31.3	25.4	92	96	10	9	------	≤° a. p.
29	32.4	25.1	92	86	10	7	------	≤° a. p.
30	31.5	25	97	90	9	10	------	p° p.
31	29.5	25	94	86	10	10	10.7	p ● p.
Mean	30.8	23.8	95.3	84.5	9.1	9	------	
Total	------	------	------	------	------	------	139	

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	23.3	87	79	10	10	3	d ●° p.
2	31.5	23	95	74	10	10	------	
3	31	23.2	93	75	10	10	11.2	● p.
4	31.6	22.1	97	80	10	10	------	d p.
5	32.7	22.5	97	67	8	9	------	⌒ a.
6	33	22.5	97	66	8	8	10.2	● p.
7	32.6	22.4	98	64	8	9	13.2	● p.
8	32.1	21.6	99	83	9	10	6.4	d ●° p.
9	31.9	22	99	68	9	10	1.5	d p.
10	29.9	22.1	97	91	9	10	37.1	● p.
11	30.7	21.5	97	68	9	9	12.4	●° a. p.
12	31.1	22.5	97	72	10	10	10.2	● p.
13	31.2	22.9	97	85	10	9	2.3	d a. p.
14	32	23.9	89	75	8	9	12.7	d ●° p.
15	32.2	23.3	97	65	10	10	------	
16	32.5	23.8	97	68	9	8	23.7	d a. ●° ⊤° p.
17	32.5	22.9	98	71	9	8	------	
18	32.2	23.4	98	82	6	10	.5	p° p.
19	32.2	22.7	97	70	8	9	------	
20	32.7	22.9	97	63	10	8	7.7	d a. p.
21	32.5	22.6	98	68	8	9	------	
22	29.8	22.7	97	80	10	9	20.1	d ●° a.
23	31	22.7	98	69	9	9	1.3	●° a. d p.
24	30.5	23.5	98	76	10	10	1.3	d p.
25	31.8	23.2	93	81	10	10	2.3	●° a. d p.
26	32	22.9	98	75	9	10	1.5	●° p.
27	31.2	22.6	95	70	9	8	6.7	p a.
28	30.6	------	89	70	10	10	2.8	d a. ●° a. p.
29	31.5	------	81	67	10	9	------	
30	31	24.9	83	71	8	10	------	
31	29.9	25.1	87	78	10	10	6.1	●° a. p.
Mean	31.6	22.9	94.8	73.3	9.1	9.4	------	
Total	------	------	------	------	------	------	194.2	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.3	22.9	81	72	9	9	0.8	d p.
2	29.8	23.7	81	81	9	10	1.8	d² a.
3	32.4	23	93	65	6	7	.5	d p.
4	28.9	24	88	75	7	7	------	
5	32.3	22.4	94	61	4	7	------	
6	32.8	22.5	96	66	3	5	------	
7	31.5	23.1	93	81	5	7	2	d a. p.
8	32.4	23.2	95	62	9	5	36.1	●² p.
9	31.8	23	97	87	4	10	32	●² p.
10	30.8	23.1	96	69	10	6	------	
11	30.8	22.9	82	70	9	6	9.1	● p.
12	29.4	24.4	90	88	7	9	66.3	● a. ●² p.
13	26.3	22.6	93	90	10	10	26.4	● a. p.
14	30.5	23	96	76	9	9	8.6	● p.
15	31.3	22.5	95	72	7	7	------	
16	32.3	24	95	72	5	4	------	
17	31.7	24	97	77	6	7	------	
18	32.4	23	97	70	6	7	42.7	●² p.
19	31.5	23.5	95	72	6	6	------	
20	32.4	24.1	95	68	7	6	------	
21	31.5	24.2	96	72	7	6	------	
22	32.9	23.5	93	64	4	6	------	
23	33.3	24	85	56	6	5	------	
24	31	24	87	70	7	7	4.3	●° p.
25	30.3	24.1	87	74	7	7	35.3	p a. ●² p.
26	28.6	23.2	92	88	10	10	44.7	● a. ●² p.
27	28.4	23.8	93	84	10	10	11.9	● a. p.
28	29.4	23.8	97	86	10	9	11.7	● a. p.
29	30.5	24.2	88	71	10	9	1.8	d² a. p.
30	33.3	23.7	84	62	7	7	------	
31	30.5	25.4	92	78	9	9	54.1	●² p.
Mean	30.9	23.5	91.7	73.5	7.3	7.4	------	
Total	------	------	------	------	------	------	390.1	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	26.1	18.8	98	87	10	9	18.3	●° a. p.
2	26	18.9	97	81	8	10	21.6	♌ ●² a.
3	27.4	19.3	97	74	2	10	4.1	d° ●° a.
4	28.5	20	97	71	2	5	------	
5	30	20.4	97	67	2	7	------	♌ ≡ a. d° p.
6	29.2	19.2	96	69	7	8	11.2	●° a. ● p.
7	29	19	97	68	10	6	1.5	● a.
8	29.8	19.5	98	65	2	8	------	
9	30.2	19.1	98	68	5	10	22.3	♌ ≡ ●² a. ●° p.
10	28.8	20	97	67	10	8	7.6	
11	30	19.2	98	68	5	8	29.7	● a. ●° p.
12	29.2	19	97	69	10	10	19.8	● a. p.
13	27.6	18.5	98	74	10	10	56.1	●² a. p.
14	27	17	98	73	7	10	------	●° a.
15	29	17.5	97	69	2	6	------	
16	30.7	19.4	97	63	7	5	------	
17	31.1	19.9	97	63	2	8	------	♌ ≡ d° a.
18	31	20	98	63	2	6	------	
19	31.3	20.3	98	66	7	8	17.8	● p.
20	29	19.2	97	65	2	5	------	≡ a.
21	31.1	19.6	97	64	10	10	14.7	d ● a.
22	30.2	19.1	98	69	4	8	------	♌ ≡ d° a.
23	30	18.6	97	69	7	9	------	d° a.
24	30.4	18.5	97	72	8	8	3	♌ ≡ a. ●° p.
25	28.8	18	98	72	10	10	108.2	●² a. p.
26	27.1	17.3	97	76	10	10	99.3	●² a. p.
27	26.5	------	98	73	8	9	17.8	● a. d p.
28	26.8	------	97	78	10	10	30	● a. p.
29	26	------	98	80	10	10	36.6	● a. p.
30	26.5	------	97	73	5	9	6.6	●° a. p.
31	27.1	------	98	73	7	10	103.2	●² a. p. ⊤° p.
Mean	28.8	19.1	97.4	70.6	6.5	8.4	------	
Total	------	------	------	------	------	------	629.4	

Meteorological data for third and fourth class stations—Continued.

STA. CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	27.1	23	98	87	10	10	8.7	d² a. ●° p.
2	30.4	22.6	98	86	10	9	7.4	d ● ↙° a.
3	32	22	98	83	8	9	1	☊² a. d p.
4	29.8	22.8	99	77	10	8	------	☊² a.
5	32.4	21.3	99	70	3	5	------	☊ a.
6	32.2	22.6	95	78	4	7	------	☊° a.
7	30.3	21.6	97	77	7	7	11.7	☊ ●° a. ↘ p.
8	32.2	22.6	97	65	4	6	1	≡° ● a. d ◪° p.
9	33	23.1	98	82	5	10	1.5	☊ a. ┬ d p.
10	30.7	22.9	97	83	8	10	4.1	☊ a. ● p.
11	31.5	22.6	97	73	10	8	17.3	☊² a. ● d² p.
12	29.9	23	97	93	10	10	16	d a. ● p.
13	27.8	22.5	97	88	10	10	9.6	● a. d a. p.
14	29.8	22.8	90	98	10	10	67.3	d a. p. ●² ● ◪° p.
15	32	21.8	98	71	8	7	2.8	☊² a. d p.
16	32.2	23.1	98	71	4	6	------	☊ a.
17	32.4	23	98	68	7	7	------	☊² a.
18	32.2	23.2	96	73	8	8	------	☊° a.
19	33.1	23.5	97	65	7	7	.8	☊° a.
20	30.4	23.9	96	88	4	10	11.4	d a. d² ⊽ p.
21	31.6	23.5	97	93	7	9	.5	┬ a. d° d p.
22	32.7	22.5	97	76	4	7	2	☊ a. d² ◠° p.
23	31.9	23.1	97	73	8	7	------	☊° a. d° ●° p.
24	30.7	22.9	97	78	10	10	1	d² a. d° p.
25	30	23	94	90	9	9	69.4	d ● a. d² ● p.
26	29.9	22.5	99	94	10	10	43.5	●° a. d a. p.
27	30.8	22.9	98	76	9	8	14.5	●² a.
28	29.9	23.9	93	89	10	10	3.6	d° a. d² ↙° d p.
29	30.3	23.8	94	74	10	9	7.4	d° ●° ↙° a. d² ↙° p.
30	32.7	22.5	89	68	9	9	------	d² a. ●° ●² p.
31	30.4	24.2	90	86	9	10	76.2	
Mean	31	22.9	96.3	79.8	7.8	8.5	------	
Total	------	------	------	------	------	------	378.7	

ANTIPOLO.

[ϕ=14° 36′ N; λ=121° 10′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	27.3	20.5	99	97	10	10	57.7	┬ ↙° a. ●² a. p. ◪² p.
2	28.6	22	96	89	10	10	12.2	● a. d p.
3	30.4	22.4	93	85	8	10	31.3	● ┬ p.
4	28.3	21.7	97	81	10	10	1.8	●° p.
5	31.3	21.6	95	73	2	8	2.5	☊ a. ●° p.
6	31	22	97	76	4	7	------	┬ p.
7	30.2	21.9	97	70	5	8	8.9	┬ ● p.
8	31.3	21.5	97	71	8	9	6.4	◪ ●° p.
9	31.9	22.1	97	81	6	9	20.8	◪² ● p.
10	29.3	22.2	97	78	10	10	13.5	p a. ┬ ● p.
11	29.8	21.7	97	75	8	8	54.4	●² p.
12	29.5	22.2	97	76	10	10	13.4	●° a. ● p.
13	25.3	22.1	97	90	10	10	55.1	● a. ●² p.
14	28.5	22.3	98	89	10	10	55.9	●² p.
15	30.8	21.8	97	82	10	10	1	p a. ●° p.
16	30.1	22.7	97	79	9	8	------	p a.
17	30.4	23.1	97	81	8	10	------	┬ p.
18	30.6	22.9	97	74	8	9	20.3	☊ a. ● p.
19	31.3	22.9	97	68	8	4	4.8	d° a. ●° ◠ ◪ p.
20	30.5	23.4	97	73	8	7	1.3	◪ ●° p.
21	29.8	22.8	96	79	10	9	2.1	d° ●° ┬ a.
22	31.2	22.4	97	72	10	8	6.9	p a.
23	30.3	22.9	97	74	10	8	2.3	● a. p° ◡° ⊽° p.
24	28.2	22.9	97	81	10	10	10.2	●° a. p.
25	29.6	22.8	97	88	10	10	43.9	● a. p.
26	28	22.2	97	97	10	10	52.8	d° a. ● a. p.
27	28.4	22	98	86	10	10	22.6	● a. p.
28	27.8	22.7	97	95	10	10	46.5	◠° a. ● a. p. ↙° p.
29	28.8	22.9	98	80	10	10	23.1	d° ● a. p. ↙° p.
30	29.2	22.2	97	86	10	10	25.4	↙° a. ● a. p.
31	27.1	23.2	96	97	10	10	51.3	┬° a. ● a. p.
Mean	29.5	22.3	96.9	81.4	8.8	9.1	------	
Total	------	------	------	------	------	------	648.4	

IBA.

[ϕ=15° 20′ N; λ=119° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	27.8	23	92	91	10	10	73.6	┬ a. ●² a. p. ↘ p.
2	27.9	22.5?	88	86	10	10	83	┬ ● a. ●² ↘ p.
3	29.5	22.7?	92	92	10	10	99.1	●² a. p.
4	29.5	22.9	93	77	10	10	------	↘ p.
5	31	22.5	90	71	4	7	4.1	●° ↘ p.
6	30	22.9	95	72	10	10	28.4	d a. ● ↘ p.
7	31	22.3	97	73	10	9	11.4	●° a. ● ↘ p.
8	30	22.6	97	75	10	10	------	○ a. ◪ d p.
9	31.5	22.5	95	78	8	10	.5	○ a. ◪ ●° p.
10	29.1	22.6	98	77	10	10	9.1	● ↘ p.
11	30.3	22	97	92	6	10	33.7	●² p.
12	28.5	22.5	97	81	10	10	14.2	● a. d a. p. ●° p.
13	30.4	22	98	75	7	10	33.9	○ ●² p.
14	29.5	23	97	82	10	10	17.8	● a. p ↘ p.
15	30.7	23.5	94	86	8	10	3.2	d a. p. ┬ ●° p.
16	29.6	23.2	94	77	10	10	------	↘ p.
17	30.7	22.9	96	78	9	10	19.2	┬° ● ↘ p.
18	29.6	22.8	96	77	10	10	50.8	◪° ●² a. ◪ p.
19	30.9	23.4	97	74	10	9	17	d a. ◪ ● p.
20	31	23.5	96	79	8	10	------	◪ d p.
21	30.5	24	93	74	10	10	8.5	d ◠ a. ● ↘ ⌞ p.
22	31.4	23.5	97	76	10	10	13.1	○ a. d ◪ ● p.
23	28.6	23.8	93	79	10	10	44.7	● a. p. ┬ ◡ p.
24	30.4	23.3	96	86	10	10	57.9	d a. ●² p.
25	26.7	22.6	97	95	10	10	126.2	●² a. ● p.
26	28.1	23.3	98	86	10	10	12	● a. d° p.
27	28.5	23.3	97	97	10	10	207.5	●² a. p.
28	30	23	98	88	10	10	67.5	● a. ●² p.
29	29.4	23.5	86	78	10	10	58.5	● a. ┬ ●² p.
30	27.9	23.9	92	87	10	10	70.3	●² a. ◪² ● p.
31	28.8	23	86	86	10	10	195	●² a. p. ◪² p.
Mean	29.6	23	94.6	81.5	9.4	9.8	------	
Total	------	------	------	------	------	------	1360.2	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	24.6	22.6	98	97	10	10	65.8	●² d a. p. ┬ ↘ p.
2	27.1	22.5	97	93	10	10	30.2	● d a. p.
3	29.4	23.4	98	92	10	10	9.4	☊ ≡ a. ●° d a. p.
4	29	23.3	97	72	10	3	------	☊ ≡ a. ↘ p.
5	32.4	22.5	97	70	10	10	------	☊ ≡ a. ↘ p.
6	29.2	22.4	97	83	4	10	18.1	☊ ≡ a. ● d ┬ p.
7	32	22	95	82	9	10	24.4	☊ ≡° a. d ● p.
8	32.6	23	97	77	10	10	------	☊ ≡ a.
9	33.8	22.6	95	63	4	9	22.1	☊ ≡° a. ● ┬ p.
10	32.2	23.3	97	66	10	10	4.8	☊ ≡ a. ●° p.
11	31.6	22.8	97	77	10	10	9.9	☊ ≡ a. ●° p.
12	30.7	23	97	72	10	9	3.3	☊ ≡ d a. ●° p.
13	32.4	23.4	96	65	9	10	8.2	☊ ≡° a. d ●° a. p.
14	30.7	23	97	91	9	10	4.4	☊ ≡ a. ●° d a. p.
15	32	23.5	97	65	10	10	15.3	☊ ≡ a. ● p.
16	33	22.7	97	65	3	10	30.5	☊ ≡ a. ●² p.
17	33.1	23.3	97	57	4	10	12.7	☊ ≡ a. ●° p.
18	32.7	22.5	97	65	9	10	.5	☊ ≡ a. d p.
19	34	24.2	97	54	9	9	8.4	☊ a. ● d p.
20	33.7	24.6	97	64	10	10	1.5	☊ ≡ a. ●° p.
21	32.7	23.4	97	65	3	10	2.8	☊ ≡ a. ┬ ●° p.
22	32.5	22.7	97	77	10	9	------	☊ ≡ a.
23	31	24.2	96	64	9	10	13	☊ ≡ a. ● ↘ p.
24	32.2	22.8	95	62	3	10	7.6	☊ ≡° a. ●° p.
25	31	23.2	97	65	10	10	9.7	☊ ≡ a. ●° d p.
26	30.2	22.8	97	90	10	10	7.4	☊ ≡ a. ●° d p.
27	29.2	23	97	73	10	10	16.5	☊ ≡ a. ● d p.
28	30.7	23.2	97	85	10	10	14.4	d ● a. p.
29	29.2	23.6	97	80	10	9	16.2	d ● a. p.
30	26.6	23.6	97	92	10	10	50.7	● d a. p.
31	24.7	23.3	97	97	10	10	40.4	● d a. p. ┬ p.
Mean	30.7	23.1	96.8	74.8	8.5	9.6	------	
Total	------	------	------	------	------	------	448.2	

Meteorological data for third and fourth class stations—Continued.

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.9	23.2	97	90	10	10	10.1	● a. p.
2	29.4	23.5	97	86	10	10	4.6	d ●° a. p.
3	32.9	23.2	96	81	10	10	1.8	♌ a. ●° p.
4	32.6	23.3	89	68	10	10	------	d a. ↙ p.
5	32.1	23.4	83	71	5	2	.3	d ↙ ┼ ●° p.
6	34.2	24.3	85	62	10	10	4.1	┼ ↙ ● p.
7	32	22.4	96	71	10	3	22.9	● ┼ ↙ p.
8	31.6	22.9	95	74	10	10	64.8	♌ a. ┼ ↙ ●² p.
9	32	23	97	70	10	10	------	♌² a. ↙ p.
10	30.8	23.6	93	84	10	10	1.8	♌ a. ●° p.
11	32.7	23.8	91	81	10	10	27.2	♌ a. d ● ┼ p.
12	30.3	22.9	96	90	10	10	40.1	♌ a. ●² p.
13	31.2	22	96	66	10	10	------	♌ a. d p.
14	33.5	23.4	89	65	10	9	------	d p.
15	33.1	24.1	89	70	8	9	3.3	●° p.
16	33.3	24.6	91	70	9	9	------	♌ a.
17	33.2	24	92	69	10	9	------	┼ ↙ p.
18	34.7	24.1	89	65	10	9	------	↙ p.
19	34.1	24.4	87	66	10	1	------	♋ p.
20	34.9	24.5	87	62	10	5	------	┼ ↙ ♋ p.
21	33.7	23.8	92	73	10	10	4.8	d ●° ┼ p.
22	33.9	23.3	94	67	10	9	8.1	♌ a. ● ♐ p.
23	34.2	24.4	96	78	10	10	1.3	♌ a. ●° d ♋ ↙ p.
24	34.3	24.9	88	69	10	9	14.2	d ┼ ● ↙ p.
25	33	24.5	84	69	10	10	5.3	┼ d ●° ↙ p.
26	34.2	23.7	88	70	9	9	3.8	●° ┼ p.
27	33.4	23.8	91	84	10	10	4.6	●° ┼ ♋ p.
28	30.5	24.6	88	84	10	10	3.3	●° p.
29	30.6	24.8	88	82	10	10	1.1	●° a. d p.
30	30.7	24	94	84	9	10	11.7	● p.
31	26.9	24.1	96	92	10	10	23.3	● a. ●° p.
Mean	32.3	23.8	91.4	74.6	9.7	8.8	------	
Total	------	------	------	------	------	------	262.5	

SAN FERNANDO, UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.1	21.6	98	99	10	10	116.5	┼° a. ●² a. p. ♐° p.
2	27.6	23	99	94	10	10	81.3	┼° ●² a. ● p.
3	27	23.2	85	80	10	10	8.1	● a. d p.
4	30.9	23	91	74	10	10	2	d° ⊕° a. ⊕² d² ♐° p.
5	31.4	22.5	96	70	4	4	50.3	♐° ●² p.
6	31.7	22.6	98	68	6	4	26.7	◠° ♐² ● p.
7	30.3	23	92	74	3	4	.3	↙° d² p.
8	31.1	23.4	93	71	10	10	17.8	⊕² a. ○° ↙° ●° p.
9	29.8	23.7	94	75	10	10	9.7	d² ┼° a. ●° ♐° p.
10	29.1	22.9	92	83	8	10	67.1	♐² a. p. d ●² p.
11	30.1	22.5	96	75	10	9	47.7	d² ⊕° a. d° ●² p.
12	30.9	23.2	93	72	10	9	7.4	⊕° a. ●° p.
13	31.3	22.8	97	67	5	7	12.2	○² a. ○° ● p.
14	31.6	23.1	87	67	9	4	------	↙° p.
15	32.9	23.6	92	66	5	2	20.8	♌² a. d² ┼° ● p.
16	31	23.7	95	75	3	10	2.3	○² a. p. d² p.
17	28.4	23.9	95	90	10	10	59.7	d² ●² ♐° p.
18	28.4	23.3	96	84	10	10	7.6	⊕° ┼° a. ●° p.
19	31.4	23	94	73	3	4	33.8	d° ◠° ♐° ●² p.
20	32	23.9	98	69	10	6	66.8	○° a. d² ♐° ●² p.
21	31.7	22.9	95	70	10	8	8.9	○° a. ♐° ●° p.
22	32	23.7	92	69	10	8	36.1	○² a. ○° ♐° ●² p.
23	31.5	23	96	72	10	9	3.8	○² a. ○° d ↙° ♋° p.
24	31.3	23.6	92	69	7	7	37.1	↙° a. ⊕° ┼° d² ♐° p.
25	30.2	23.8	94	79	10	9	19.1	d² ○² a. ○° ● p.
26	30.3	23.9	95	77	10	6	5.1	d° ♐° a. ○² a. p. ●° p.
27	31.8	23.7	94	71	10	7	13.7	d° a. ○° a. p. ● p.
28	30.9	23.7	93	76	10	10	19.8	⊕° ○° a. d² a. p.
29	28.3	24.1	88	88	10	10	64	┼° a. d² a. p. ♐° ● p.
30	25.1	23.2	93	94	10	10	128.6	● a. ♐° ●² p.
31	25.5	23	96	97	10	10	72.6	●² ┼° a. ● ↙° p.
Mean	30.1	23.2	93.8	77	8.5	8	------	
Total	------	------	------	------	------	------	1046.9	

ECHAGUE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	25.5	22.8	85	91	10	10	19.3	●° a. p.
2	31.4	22.8	91	71	10	10	------	◠ d° a.
3	33.7	22.6	94	63	8	9	13.2	● p.
4	33.3	23.2	97	63	10	7	2.5	↙ ●° p.
5	33.7	23.5	96	66	9	5	2.5	≡° ♌² a. ↙° ●° ┼° p.
6	33.4	21.9	93	62	9	7	5.1	♌² a. ●° ┼ ↙ p.
7	33.5	22.2	96	57	1	4	50.8	≡° ♌² a. ●² ┼ ↙ p.
8	31.1	22	96	68	8	8	------	≡° ♌² a. ↙° d ┼ p.
9	33.9	23.1	95	56	9	6	------	♌ a. ○° ⊕ ┼ p.
10	29	23.4	94	85	9	10	------	♌ d° a.
11	29.4	23.5	95	82	10	9	52.9	d ●² a. d° ● p.
12	30.4	22.6	95	71	9	9	7.1	d° ● p.
13	33.4	22.1	98	61	7	4	2.3	≡ ♌ a. d ┼ p.
14	33.6	23.5	94	60	8	4	39.9	♌ a. ●² ┼ ↙ p.
15	33.9	22.8	95	59	4	7	------	○° ⊕ p.
16	31.8	24	92	66	9	9	------	♌ a. ○° ⊕ ↙ ┼ p.
17	34.2	24.1	93	60	7	8	12.2	♌° a. ○° ⊕° ┼ ● p.
18	34.3	22.8	95	66	10	8	.5	≡° ♌ a. ┼ d° p.
19	33.6	23	96	61	2	8	------	≡° ♌² a. ┼ p.
20	34.6	23.1	95	59	6	7	50	≡° ♌² a. ↙° ●² p.
21	33.4	23	97	61	8	8	1.8	≡ ♌² a. ↙° ●° p.
22	34.4	23	93	56	8	6	2.5	♌² a. ↙° ┼ ●° p.
23	34.3	24.1	95	63	10	6	37.8	↙ ●² p.
24	34	23.4	94	63	8	7	27.2	◠ a. ↙ ● p.
25	31.7	23.5	93	73	10	8	2.5	┼ d° ↙ ●° p.
26	33	22.8	96	66	9	5	7.6	d° a. ┼ ● d p.
27	34.1	22.7	95	63	8	8	2	○° ⊕ ┼ ● ↙° d° p.
28	34.2	22.4	87	61	9	8	------	♌ a. ○² ⊕² p.
29	32.1	24.8	76	63	9	8	------	d° a.
30	33.3	24	88	69	9	10	2.8	d° a. p. ┼ p.
31	31.8	23.3	96	66	10	9	6.9	d° a. ♐° ● p.
Mean	32.7	23.1	93.4	65.5	8.2	7.5	------	
Total	------	------	------	------	------	------	349.4	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	25	23.6	92	93	10	10	354.6	┼° a. ●² a. p. ♐ p.
2	26.9	24.1	92	89	10	10	29.5	┼° a. ● a. p.
3	27.8	25	91	83	10	10	1	p p.
4	29	23.6	87	81	10	10	3	d ↙ p p.
5	29.9	24.4	90	74	1	8	34	♌ a. ● ♐° p.
6	29.8	24.2	87	73	4	3	1.3	♌ a. p ↙ p.
7	29.9	24.2	86	73	1	8	------	♌ ┼° a. ↙ p.
8	29.5	24.2	87	77	10	9	1	♌ a. p p.
9	30.4	25	88	75	10	7	1.3	┼° p ↙ p.
10	29.4	25	91	74	9	8	17.3	♌ a. ● ↙ p.
11	29.3	25	90	78	8	9	14	┼° ● p.
12	29.8	25	91	75	9	10	17.3	d ● p.
13	29.9	24.4	92	77	7	8	27.9	┼° ● ↙ p.
14	29.9	24.5	89	79	6	4	4.3	p p.
15	30.9	25.5	88	75	3	3	2	p p.
16	30.4	25.2	89	77	2	9	13.5	♌² a.
17	30.5	25.5	88	79	9	9	16.5	┼° a. ♐° ● p.
18	30.3	25.5	89	82	8	9	2.5	d a. p p.
19	29.9	25.4	88	79	7	8	41.1	◠° ●² p.
20	29.9	25.2	89	75	10	8	1.8	p a. ┼° d ↙ p.
21	30	25.2	88	77	6	9	5.1	♌ a. ┼° p p.
22	29.9	25	89	77	6	7	57.1	d ●² ♐² p.
23	30.3	25	92	78	9	9	16.5	♐° ● p.
24	29.9	25.4	92	78	7	4	25.4	♐² ● p.
25	29.2	25.5	90	82	9	9	1.3	p p.
26	30.3	25.6	92	79	10	7	1	◠° a. d p ↙ p.
27	30.4	25.5	89	75	5	6	22.9	♌ a. ● p.
28	28.4	25.5	89	85	9	10	10.7	p a. p.
29	27	25	89	93	10	10	133.4	●² a. p. ♐° p.
30	25.6	24.6	96	92	10	10	92.9	● a. p.
31	26.5	24.2	94	94	10	10	59.5	┼° a. ● a. p. p p.
Mean	29.2	24.9	89.8	79.9	7.6	8.1	------	
Total	------	------	------	------	------	------	1009.7	

Meteorological data for third and fourth class stations—Continued.

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	24.9	23.2	95	92	10	10	202.2	●² a. p.
2	27.8	22.8	97	87	10	10	64.5	●² ┬° a. d ○° ● p.
3	30.2	24.1	91	73	10	10	2.8	d° ● a. ●° ↙° p.
4	31.3	22.5	97	71	10	10	10.2	d ● ┬° p.
5	31.2	23.2	97	73	4	7	9.9	≡ a. d° ● ◪ p.
6	31.9	23.2	97	65	7	6	------	≡ a. ↙° p.
7	31.2	24.4	94	73	3	9	------	Ω° a. ┬ d° ↙° Ω° p.
8	31.3	24.1	95	72	10	10	3.6	Ω° a. ┬° ●° ↙° p.
9	31.5	23.2	97	73	9	10	.2	≡ a. ┬ ●° d° ↙ p.
10	31.6	23.5	95	80	8	10	28.7	Ω ≡° a. ◪ ● p.
11	30.7	23.1	97	72	7	10	1.8	┬ d° ●° p.
12	31.4	24	97	92	10	10	20.7	≡ a. ● ┬ d° p.
13	30.7	23.2	95	73	9	9	.8	┬ ●° d° p.
14	31.8	23.4	96	67	7	6	------	Ω ≡° a. ↙ Ω° p.
15	32.6	24	92	67	3	3	------	Ω° a. ↙ d p.
16	32.3	23.9	91	69	2	10	7.9	Ω° a. ○ a. p. d° ↙ ● p.
17	32	24.1	94	74	10	10	.1	⌒° a. ┬° d ◪ p.
18	31.3	25	95	83	10	10	8.9	● p.
19	31.3	23.7	97	75	9	9	------	⌣ p.
20	31.8	24	91	69	10	9	------	Ω° a. ┬° p.
21	32.3	24.6	94	66	9	10	33.5	Ω° a. ┬° d ●² p.
22	31.9	23.7	97	72	8	8	.3	≡ a. ◪ d° ●° p.
23	31.9	23.5	92	71	6	9	.4	┬° d° ●° ⌒ ↙ p.
24	31.9	23.9	94	71	8	7	9.7	┬° d° ⌒ ● ◪ p.
25	30.2	24	95	81	9	10	------	d° a. p. ┬ Ω° Ψ p.
26	31.4	24.1	97	71	8	8	------	Ω a. ⌣° Ω° p.
27	31.7	23.5	95	70	9	10	9.9	Ω a. ○ ● ⌣° p.
28	29.1	24.5	96	83	10	10	39.6	○ d a. ● a. p.
29	27.9	24.4	93	88	10	10	85.6	● ○° d° a. ○ ●² ◪ p.
30	25.4	23.5	97	95	10	10	45.5	● a. p. d p.
31	28.6	23.4	93	82	10	10	32.2	d ● a. p.
Mean	30.7	23.7	94.9	75.8	8.2	9	------	
Total	------	------	------	------	------	------	619	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature.		Relative humidity.		Cloudi. ness.		Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	26.7	------	95	93	10	9	46.2	↙° ● d a. p.
2	29.2	------	94	89	10	10	------	d° Ψ° d.
3	31.2	25.4	91	-----	8	9	------	○² p.
4	32.5	25.4	90	-----	6	6	------	⌒ a. Ω p.
5	32.2	23	93	82	3	7	------	v a. ↙° Ω² p.
6	31.2	22.4	95	-----	1	2	2	Ω² a. Ω° ●° p.
7	31.4	25.2	93	-----	4	6	------	Ω p.
8	30.9	23.9	94	-----	7	7	------	○° a.
9	32.5	------	87	-----	4	6	------	↙° Ω° a.
10	32.6	------	94	-----	3	7	2.8	⌒ v a. Ω ↙° p.
11	31.1	23.2	94	80	8	8	14.2	●° d° a. p. ● ↙² p.
12	31.5	------	94	79	4	8	7.1	●° d a.
13	32.5	------	92	-----	2	4	1	Ω² d a. ●° ↙° Ω° p.
14	32.4	21.6	93	80	2	7	.3	d a. Ω p.
15	31.5	21.9	93	-----	7	4	3	Ω² a. p. ●° p.
16	32	21.9	95	-----	2	4	------	Ω p.
17	32.2	24.5	93	89	8	10	6.6	d° ┬ a. ┬° ● p.
18	30.6	23.7?	91	84	10	10	.5	●° a. ↙° p.
19	30.5	25	90	86	4	8	------	Ω p.
20	31.4	24.5	91	83	6	5	------	
21	31.5	23.4	94	80	4	7	7.4	● p.
22	32.5	22.6	97	-----	4	4	------	●° a. Ω p.
23	33.3	23.4	94	-----	3	4	------	Ω a.
24	32.2	23.4	93	-----	5	5	12.5	d² a. ●° d ⌒ p.
25	31.5	23.4?	91	84	10	5	2.4	●° a. p.
26	31.9	22.8	94	80	5	6	.9	⌒ a. d° a. p. ⌣° ●° p.
27	31.2	24.2	89	83	4	8	------	○° a. p. ↙ p.
28	30.4	25.6	91	85	10	10	.2	↙° a. p. ●° p.
29	30	25.9	94	86	10	10	------	↙° a. p. p° p.
30	30.4	25.9	91	89	4	10	21.6	p° p.
31	29.4	------	90	91	10	10	23.9	↙° a. ● a. p.
Mean	31.3	23.8	92.6	84.6	5.7	7	------	
Total	------	------	------	------	------	------	152.6	

SEISMOLOGICAL BULLETIN FOR AUGUST, 1912.

By Rev. MIGUEL SADERRA MASÓ, S. J.
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

1, $10^h\ 30^m$ [1, $20^h\ 0^m$]. **Guam** (Mariana Islands). Earthquake of intensity III and short duration.

4, $13^h\ 0^m$ [4, $21^h\ 0^m$]. **Guiuan** (SE of Samar). Oscillatory earthquake; direction NE–SW, intensity III, duration 5 seconds.

15, $15^h\ 20^m$ [15, $23^h\ 20^m$]. **Sarangani** (S of Mindanao). Earthquake of intensity II–III.

16, $18^h\ 48^m$ [17, $2^h\ 48^m$]. **Zamboanga** (W of Mindanao). Oscillatory earthquake of force III and 4 seconds' duration.

17, $19^h\ 35^m$ [18, $3^h\ 35^m$]. **Agusan Valley** (E of Mindanao). Earthquake of intensity V which was felt throughout the valley, as is shown by the reports of Butuan and Talacogon. Its origin appears to have lain in the same region as that of the great earthquake of July 12, 1911, that is, not far from the eighth parallel of latitude north. At $4^h\ 15^m$ of the 18th [18, $12^h\ 15^m$] there was a repetition having intensity III and being felt only in the northern part of the valley.

17, $20^h\ 30^m$ [18, $4^h\ 30^m$]. **Southern Mindanao.** Earthquake of intensity III–IV, perceptible in the whole south of the island, Zamboanga, Cotabato, Sarangani, and Davao. The agreement of the times reported by these four stations does not admit any doubt that 55 minutes after the Agusan earthquake there occurred an other, of less intensity, but much greater extension, whose center lay in the northeastern part of the Celebes Sea, and which was perceptible from the Davao Gulf to Zamboanga, though the latter town lies about 450 kilometers west of Davao. The following notice sent to us from Sarangani Island, where numerous repetitions were observed, suggests that the epicenter could not have been far off:

> Sarangani, August 18, $4^h\ 30^m$: Slight earthquake, with repetitions every 10 minutes until 7^h. At $8^h\ 30^m$ new shocks were felt which were preceded by subterranean noise, and separated by intervals of 4 to 6 seconds. Other shocks occurred at $10^h\ 15^m$, $12^h\ 30^m$, $16^h\ 21^m$, and $23^h\ 40^m$. On the 19th: Repetitions at $1^h\ 40^m$, $2^h\ 20^m$, $10^h\ 34^m$, and $16^h\ 35^m$. On the 20th: At $3^h\ 20^m$, $5^h\ 30^m$, and $10^h\ 35^m$.

The foregoing disturbances in the Agusan Valley and the neighborhood of Sarangani Island seem to have been but the echo of an earthquake of much greater proportions which probably originated between parallels 6° and 7° latitude north and near meridian 127° longitude east, that is, in the southernmost part of the great trough of Mindanao, discovered by the German hydrographic survey ship "Planet". The importance of this earthquake is shown by the fact that it was registered throughout the world. Its first preliminary tremors arrived at Manila at $19^h\ 14^m\ 56^s$ and from their duration was deduced a distance of about 1,300 kilometers from the center. The agitation of the seismographs

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in Greenwich mean time (Midnight=0^h), Insular time being added in brackets for the convenience of Philippine readers.

lasted over one hour, during which time occurred the earthquakes of the Agusan Valley and of Sarangani Island (see "Records of the Microseismographs," No. 195). We subjoin the times of the beginning of the perturbation as registered at various Observatories:

	h.	m.	s.		h.	m.	s.		h.	m.	s.
Manila, P. I.	19	14	56	Osaka, Japan	19	18	24	Stonyhurst, England	19	26	05
Taihoku, Formosa	19	16	46	Chemulpo, Korea	19	19	14	Granada, Spain	19	27	09
Zikawei, China	19	17	38	Athens, Greece	19	25	11	Ottawa, Canada	19	32	37
Tsingtau, China	19	18	22	Vienna, Austria	19	25	38				

21, $4^h\ 30^m\ 46^s$* [21, $12^h\ 30^m\ 46^s$]. **Southern Mindanao.** Earthquake of force IV on Sarangani Island, and felt throughout that part of Mindanao which is comprised by the Districts of Cotabato and Davao. It must be considered as an aftershock proceding from the same center as the preceding quakes.

21, $18^h\ 15^m$ [22, $2^h\ 15^m$]. **Sarangani** (S of Mindanao). Earthquake of intensity III.

23, $2^h\ 37^m$ [23, $10^h\ 37^m$]. **Baguio** (W of Luzon). Oscillatory earthquake; direction ENE–WSW, intensity II–III.

25, $15^h\ 38^m$ [25, $23^h\ 38^m$]. **Talacogon** (Agusan, E of Mindanao). Earthquake of intensity III–IV, followed a few minutes later by a repetition of less force. It was likewise felt at Butuan, in the north of the valley, where it was of intensity II–III.

27, $16^h\ 56^m$ [28, $0^h\ 56^m$]. **Dapitan** (NW of Mindanao). Oscillatory earthquake; direction WNW–ESE, intensity V–VI, duration 9 seconds.

28, $18^h\ 45^m$ [29, $2^h\ 45^m$]. **Cotabato** (SW of Mindanao). Oscillatory earthquake; direction SE–NW, intensity III, duration 4 seconds.

29, $3^h\ 36^m$ [29, $11^h\ 36^m$]. **Sarangani** (S of Mindanao). Earthquake of intensity III.

29, $13^h\ 13^m\ 52^s$* [29, $21^h\ 13^m\ 52^s$]. **Central Luzon.** Earthquake of intensity V–VI which was felt in the provinces of Ilocos Sur, La Union, Mountain, Nueva Vizcaya, Nueva Ecija, and Pangasinan. From the reports received we conclude that its origin must be sought within the Mountain Province, toward the northeast of Benguet, south of Lepanto, southwest of Ifugao, and northwest of Nueva Vizcaya. A note sent by the Rev. Missionary at Quiangan states that there the movements were very strong (VI) and characteristic, though they caused no damage to buildings; the principal shocks lasted about 3 seconds and were preceded by fainter ones for the space of some 7 seconds, the whole phenomenon lasting, however, not more than 15 seconds. At Bayombong the force was somewhat less (V–VI). According to Sr. Frederico Bona, of Cervantes, the principal oscillations, from south to north, had also there intensity V–VI, lasting 4 seconds: a warehouse of light materials collapsed. Mirador Observatory, Baguio, classifies the disturbance as of force V; in the city, bottles and similar objects were overturned. In the more remote provinces the intensity did not exceed III. No seismograph outside the Philippines registered the disturbance. The seismographs of Mirador Observatory registered various repetitions at $19^h\ 42^m$ of the same day [30, $3^h\ 42^m$], at $16^h\ 29^m$, $18^h\ 12^m$, $23^h\ 43^m$ of the 30th [31, $0^h\ 29^m$, $2^h\ 12^m$, $7^h\ 42^m$], and at $5^h\ 50^m$, $6^h\ 1^m$, and $6^h\ 17^m$ of the 31st [31, $13^h\ 50^m$, $14^h\ 1^m$, and $14^h\ 17^m$]. Of these repetitions the only ones which were *perceptible* at Baguio, Cervantes, and Quiangan (intensity II–III), and likewise registered at Manila, were those at $19^h\ 42^m$ of the 29th and $23^h\ 43^m$ of the 30th.

29, $15^h\ 4^m$ [29, $23^h\ 4^m$]. **Ormoc** (W of Leyte). Oscillatory earthquake, direction SW-NE, intensity II–III, duration 4 seconds.

30, $18^h\ 11^m\ 40^s$* [31, $2^h\ 11^m\ 40^s$]. **Southeastern Luzon and northern Samar.** Earthquake felt in the provinces of Ambos Camarines, Albay, and Sorsogon, and on the islands of Catanduanes, Masbate, northern Samar, northern Leyte, and northern Panay, which fact supposes an extent of territory shaken measuring over 500 kilometers in diameter. The meizoseismic area, within which the phenomenon developed force V–VI, appears to form an ellipse, with major axis lying in the direction WNW–ESE, which encloses the eastern

part of Ambos Camarines, the provinces of Albay and Sorsogon, the Island of Catanduanes, and the northern part of Samar. We deduce this shape of the meizoseismic area from the reports received from Nueva Caceres (Camarines), Legaspi (Albay), Gubat (Sorsogon), Virac (Catanduanes), and Laoang (Samar), in all of which places, with the possible exception of the first named, the earthquake was of intensity V–VI, and was followed by a repetition of intensity III at $19^h\ 31^m\ 2^s$ [31, $3^h\ 31^m\ 2^s$], the latter being preceded and followed by other, barely perceptible, shocks. At the other stations in Ambos Camarines, Masbate, Samar, Leyte, and Panay, all of which lay outside of the curve determined by those mentioned before, only the principal quake was felt, its intensity being below V and decreasing in proportion to their distance. The origin of this earthquake must very probably be sought in a secondary line of fracture which, starting from the great trough of Visayas and Mindanao, runs in a westerly or northwesterly direction toward San Bernardino Strait and the Gulfs of Albay and Lagonoy. Although the data in our possession cover only the western and southwestern portion of the supposed meizoseismic area (the rest being occupied by the ocean), we cannot suppose that at a greater distance forwards the southeast, the disturbance was of greater violence. Such assumption is precluded by the fact that the perturbation was neither very remarkable at Manila, nor was it recorded by any seismograph at a distance exceeding 2,000 kilometers. Thus the quake in question is a confirmation of what we said in the paper on "The Seismic Centers of Samar, Leyte, and Eastern Mindanao," Monthly Bulletin for August, 1910, where, when speaking of the seismic centers which seem to be connected with the great trough east of Mindanao and Visayas, we pointed out a secondary fault to the north of Samar which apparently extends in a westerly or northwesterly direction, toward San Bernardino Strait.

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Mean Greenwich. Midnight=0h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T_0=7, ϵ=3.6; A_E: T_0=7, ϵ=3. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
183	2	I_d	eP	4 47 07				
			L	47 18				
			F	50 00				
184	3	I_r	e	9 16 00				
			F	35 00				
185	4	I_r	e	19 08 00				
			F	31 00				
186	6	I_r	eP	13 33 14				
			eS	37 50				
			L	42 13				
			M_N	44 32	11-12	23		
			F	14 32 00				
187	6	I_d	eP	19 04 00				
			F	07 00				
188	6	I_r	eP	21 20 24				
			eS	24 29				
			L	27 52				
			M_N	28 28	8-9	13		
			F	22 12 00				
189	9	I_u	eP	1 41 05				Sea of Marmara.
			eS	52 21				
			L	2 02 40				
			M_N	25 22	19-20	21		
			M_E	26 24	19		58	
			F	3 07 00				
190	15	I_r	eP	13 43 15				
			F	14 03 00				
191	15	IId	eP	14 20 00				
			L	20 16				
			M_N	20 32	2-3	181		

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
			F	34 00				
192	15	I_d	eP	17 29 09				
			F	31 00				
193	16	I_d	eP	2 24 36				
			L	24 52				
			M_N	25 12	1-2	152		
			F	32 00				
194	16	I_d	e	3 56 33				
			F	59 00				
195	17	II_r	eP	19 14 56				Southeast of Mindanao.
			i	15 33	4-5			
			iS	17 14	6-7			
			i	17 32	4-5			
			L	18 55				
			M_N	24 47	10-11	370		
			F	20 40 00				
196	17	I_r	e	21 21 38				
			F	33 00				
197	18	I_r	e	0 35 54				
			F	57 00				
198	18	I_r	eP	2 16 00				
			F	37 00				
199	18	I_r	eP	7 44 00				
			eS	46 15				
			L	47 50				
			M_E	50 16	7-8		17	
			F	8 18 00				
200	18	I_v	eP	13 24 14				
			L	27 25				
			M_E	28 18				
			F	43 00				
201	18	I_v	eP	15 48 58				
			F	16 02 00				
202	18	I_r	eP	18 27 37				
			S	30 08				
			L	33 36				
			M_E	35 22	11-12		8	
			F	58 00				
203	18	I_v	eP	20 20 45				
			L	22 29				
			F	43 00				
204	18	I_r	eP	21 32 20				
			S	34 18				
			L	36 25				
			M_E	39 48	12-13		22	
			F	22 08 00				
205	19	I_r	eP	16 31 00				
			F	54 00				
206	21	I_r	e	4 30 46				Horizontal pendulums. Southern Mindanao.
			F	52 00				
207	21	I_r	eP	17 29 48				
			L	32 27				
			M_N	32 47	5-6	72		
			F	52 00				
208	23	I_r	e	7 46 30				Horizontal pendulums.
			F	8 09 00				
209	23	I_r	e	14 05 00				
			M_E	18 19	11-12		5	
			F	35 00				
210	23	I_r	eP	21 50 18				
			M_E	57 11	5-6		7	
			F	22 13 00				
211	26	I_d	eP	18 58 48				
			L	59 17				
			M_N	59 23	1-2	54		
			M_E	59 23	1-2		42	
			F	19 03 00				

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
212	27	I_r	e	0 13 11				
			F	43 00				
213	29	II_v	eP	13 13 52				Central Luzon.
			L	14 23				
			M_N	15 22	3-4	399		
			M_E	15 27	4-5		282	
			F	23 00				
214	29	I_v	eP	19 42 16				Central Luzon.
			F	45 00				
215	30	II_v	eP	18 11 40				Southeastern Luzon and northern Samar.
			L	12 30				
			M_E	12 50	5-6		556	
			M_N	13 11	6-7	588		
			F	37 00				
216	30	I_v	eP	19 31 02				Southeastern Luzon and northern Samar.
			L	31 46				
			M_N	32 20	3-4	26		
			F	38 00				
217	30	I_v	eP	23 43 27				Central Luzon.
			L	44 04				
			M_N	44 44	3	40		
			F	52 00				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

1, 10h 30m [1, 20h 0m]. **Guam** (Islas Marianas). Temblor de tierra de intensidad III y de corta duración.

4, 13h 0m [4, 21h 0m]. **Guiuan** (SE de Samar). Temblor oscilatorio; dirección NE–SW, intensidad III, duración 5 segundos.

15, 15h 20m [15, 23h 20m]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad II–III.

16, 18h 48m [17, 2h 48m]. **Zamboanga** (W. de Mindanao). Temblor oscilatorio de intensidad III, duración 4 segundos.

17, 19h 35m [18, 3h 35m]. **Valle del Agusan** (E de Mindanao). Temblor de tierra de intensidad V, sentido en todo el valle, según las notas de Butuan y Talacogon. Su epicentro parece hallarse en la misma región que el del gran terremoto del 12 de Julio de 1911, no lejos del paralelo 8° N. A 4h 15m del 18 [18, 12h 15m] hubo una repetición de intensidad III sentida sólo en la parte norte del valle.

17, 20h 30m [18, 4h 30m]. **Sur de Mindanao.** Temblor de intensidad III–IV sentido en todo el sur de la Isla, Zamboanga, Cotabato, Sarangani, y Davao. La uniformidad en las horas de estas cuatro estaciones no permite dudar de que 55 minutos después del terremoto agusano ocurrió otro de menos intensidad pero de mucha mayor extensión, cuyo origen se hallaba en la parte NE del mar de Célebes y fué perceptible desde el Seno de Davao hasta Zamboanga, que distan entre sí unos 450 kilómetros en la dirección E–W. La siguiente nota enviada de la isla Sarangani, donde se observaron numerosas repeticiones, indica que el epicentro no debía estar lejos:

> Sarangani, 18, 4h 30m, temblor de poca intensidad, con repeticiones cada 10 minutos hasta las 7h. A 8h 30m volvieron a percibirse otras, precedidas de ruido subterráneo, con un intérvalo de 4 a 6 segundos. Las hubo también a 10h 15m, 12h 30m, 16h 21m, y 23h 40m. Día 19, repeticiones a 1h 40m, 2h 20m, 10h 34m, y 16h 35m. Día 20, a 3h 20m, 5h 30m, y 10h 35m.

Los precedentes temblores del Valle del Agusan y de las cercanías de la isla Sarangani parecen ser el eco de un terremoto de mayor importancia originado probablemente entre los 6° y 7° Lat. N, y cerca del meridiano 127° E, o sea en el extremo S de la gran fosa marina de Mindanao y Visayas descubierta por el barco oceanográfico alemán "Planet". Este terremoto submarino lo registraron todos los seismógrafos del mundo, lo cual indica su importancia. Sus primeras ondas llegaron a Manila a 19h 14m 56s y de su duración se deduce que el origen distaba unos 1,300 kilómetros; la perturbación (Records of the Microseismographs No. 195) duró más de una hora durante la cual ocurrieron los temblores del Agusan y Sarangani. A continuación copiamos las horas del principio de la misma perturbación registradas en varios observatorios:

	h.	m.	s.		h.	m.	s.		h.	m.	s.
Manila, P. I.	19	14	56	Osaka, Japon	19	18	24	Stonyhurst, Inglaterra	19	26	05
Taihoku, Formosa	19	16	46	Chemulpo, Corea	19	19	14	Granada, España	19	27	09
Zikawei, China	19	17	38	Atenas, Grecia	19	25	11	Ottawa, Canada	19	32	37
Tsingtau, China	19	18	22	Viena, Austria	19	25	38				

21, 4h 30m 46s* [21, 12h 30m 46s]. **Sur de Mindanao.** Temblor de tierra de intensidad IV, en la isla de Sarangani, y sentido en toda la parte sur de Mindanao comprendida por

[1] La intensidad de los terremotos se indica conforme a la conocida escala de De Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo que se refieren al tiempo medio de Greenwich (medianoche=0h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

los Distritos de Cotabato y Davao. Debe considerarse como una repetición o aftershock procedente del mismo centro que los anteriores.

21, $18^h\ 15^m$ [22, $2^h\ 15^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III.

23, $2^h\ 37^m$ [23, $10^h\ 37^m$]. **Baguio** (W de Luzón). Temblor oscilatorio; dirección ENE–WSW, intensidad II–III.

25, $15^h\ 38^m$ [25, $23^h\ 38^m$]. **Talacogon** (Agusan, E de Mindanao). Temblor de tierra de intensidad III–IV. Repitió pocos minutos después con menos intensidad. Fué también perceptible en Butuan, al norte del valle, con intensidad II–III.

27, $16^h\ 56^m$ [28, $0^h\ 56^m$]. **Dapitan** (NW de Mindanao). Temblor oscilatorio; dirección WNW–ESE, intensidad V–VI, duración 9 segundos.

28, $18^h\ 45^m$ [29, $2^h\ 45^m$]. **Cotabato** (SW de Mindanao). Temblor oscilatorio; dirección SE–NW, intensidad III, duración 4 segundos.

29, $3^h\ 36^m$ [29, $11^h\ 36^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III.

29, $13^h\ 13^m\ 52^s$* [29, $21^h\ 13^m\ 52^s$]. **Centro de Luzón.** Temblor de tierra de intensidad V–VI, sentido en las provincias de Ilocos Sur, La Unión, Montañosa, Nueva Vizcaya, Nueva Ecija, y Pangasinán. Según se deduce de las notas recibidas, su epicentro parece se hallaba en la provincia Montañosa hacia la parte NE de Benguet, S de Lepanto, SW de Ifugao, y NW de Nueva Vizcaya. La nota del Misionero de Quiangan dice que allí los vaivenes fueron muy fuertes (VI) y característicos, aunque no causaron desperfectos en las casas; los principales duraron unos 3 segundos y fueron precedidos de otros más debiles durante unos 7 segundos; la duración total del temblor no pasó sin embargo de 15 segundos. En Bayombong tuvo algo menor intensidad (V–VI). Según el Sr. Bona, de Cervantes, los vaivenes principales de S a N tuvieron también allí intensidad V–VI, con una duración de 4 segundos: se cayó un camarín de materiales ligeros. El Observatorio de Baguio lo calificó de intensidad V: en la población se cayeron botellas y otros objetos semejantes. En las otras provincias más lejanas no pasó de intensidad III. No fué registrado por los seismógrafos de fuera del Archipiélago. Los seismógrafos de Baguio registraron además varias repeticiones a $19^h\ 42^m$ del mismo 29 [30, $3^h\ 42^m$], a $16^h\ 29^m$, $18^h\ 12^m$, $23^h\ 43^m$ del 30 [31, $0^h\ 29^m$, $2^h\ 12^m$, $7^h\ 42^m$] y a $5^h\ 50^m$, $6^h\ 1^m$, y $6^h\ 17^m$ del 31 [31, $13^h\ 50^m$, $14^h\ 1^m$, y $14^h\ 17^m$]. De estas repeticiones sólo fueron perceptibles en Baguio, Cervantes, y Quiangan con intensidad II–III, y además registradas en Manila, las que ocurrieron a $19^h\ 42^m$ del 29 y $23^h\ 43^m$ del 30.

29, $15^h\ 4^m$ [29, $23^h\ 4^m$]. **Ormoc** (W de Leyte). Temblor oscilatorio; dirección SW–NE, intensidad II–III, duración 4 segundos.

30, $18^h\ 11^m\ 40^s$* [31, $2^h\ 11^m\ 40^s$]. **SE de Luzón y N de Samar.** Temblor de tierra sentido en las provincias de Ambos Camarines, Albay, y Sorsogón, y en las islas de Catanduanes, Masbate, N de Samar, N de Leyte, N de Panay, regiones que suponen un área conmovida de más de 500 kilómetros de diámetro. El área meizoséismica, donde tuvo intensidad V–VI parece formar una elipse, con su eje mayor orientado en la dirección WNW–ESE, la cual comprende la parte E de Ambos Camarines, las provincias de Albay, y Sorsogon, la isla de Catanduanes y la parte N de Samar. Semejante forma del área meizoséismica la deducimos de las notas de Nueva Caceres (Camarines), Legaspi (Albay), Gubat (Sorsogon), Virac (Catanduanes), y Laoang (Samar), en todas las citadas estaciones, excepto tal vez en la primera, el temblor tuvo intensidad V o VI y fué seguido de una repetición de intensidad III a $19^h\ 31^m\ 2^s$ [31, $3^h\ 31^m\ 2^s$] y de otras poco perceptibles antes y después de esta principal. En Virac el temblor fué además acompañado de ruido subterráneo. Otras estaciones de Camarines, Masbate, Samar, Leyte, y Panay que caen fuera de la línea determinada por las antes citadas, sintieron solamente el temblor principal con intensidades inferiores a V y decrecientes a proporción de su distancia. Parece muy

probable que el origen de este temblor se hallaba en una fractura secundaria que desde la parte septentrional de la gran fosa de Visayas y Mindanao o del "Planet" se interna en dirección W o NW hacia el estrecho de San Bernardino y Senos de Albay y Lagonoy. Aunque solamente poseemos datos de la parte W y SW de la supuesta área meizoséismica, por corresponder al mar lo restante, no podemos suponer sin embargo que más lejos hacia el SE, tuviese el temblor mucha mayor intensidad, puesto que ni la perturbación fué muy notable en Manila, ni lo registraron los seismógrafos más allá de 2,000 kilómetros. Siendo así, este temblor confirma lo que decíamos en nuestro artículo "Centros Séismicos de Samar, Leyte, y de la parte oriental de Mindanao" publicado en el Boletín Mensual de Agosto de 1910. Al tratar allí de los centros séismicos o fracturas relacionadas al parecer con la gran fosa oriental señalábamos al N de Samar una fractura secundaria que se extendía aparentemente en dirección W o NW hacia el Estrecho de San Bernardino.

BULLETIN FOR SEPTEMBER, 1912.

METEOROLOGICAL BULLETIN FOR SEPTEMBER, 1912.

By Rev. JOSÉ CORONAS, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure for the month was, in almost all parts of the Archipelago, somewhat less than in the corresponding month of last year. In Manila it differed from the September normal by —1.16 millimeters, and from that of September 1911 by —0.67 millimeters. The highest barometer readings were recorded for the most part on the 23d, and the lowest on the 15th, though in Aparri, the 28th was the day on which the lowest barometer was recorded owing to the influence of the last typhoon of the month which touched the northeast part of the Province of Cagayan.

The mean normal temperature differed but little from that of the same month of last year. In Manila it was 0.2° C. below the normal and the mean of September, 1911.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS FOR SEPTEMBER, 1912.

Station.	Pressure.						Temperature.					
	Mean.	Departure from September, 1911.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from September, 1911.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°C.	°C.	°C.		°C.	
Tagbilaran	757.41	—0.46	759.39	23	754.31	15	27.1	-------	33.9	3, 5	22.8	8
Surigao	56.94	-------	59.12	22	53.58	15	27.6	-------	34.4	3	22.6	7
Cebu	56.91	— .76	59.22	23	53.28	15	27.5	+0.5	34	5	22.9	7
Iloilo	56.94	— .81	59.16	23	53.22	15	26.9	+ .5	31.5	6	21.4	7
Ormoc	57.13	— .72	59.36	23	53.53	15	27.3	+ .8	32.3	23	22	7, 10, 11
Tacloban	56.62	— .94	59.15	23	52.62	15	27.9	+ .4	35.2	28	22.8	8
Capiz	56.64	— .91	59.33	23	52.51	15	26.6	0	34	3	22.5	7, 8
Calbayog	56.42	—1.03	59.04	23	52.02	15	27.6	+ .5	32.6	18	22.2	7
Legaspi	56.08	—1.02	59.06	23	51.05	15	27	— .3	34.7	25	21	12
Atimonan	55.81	— .96	59.12	23	50.56	15	26.7	—1	32.9	21	22.3	11
Paracale	55.73	—1.06	59.26	23	50.16	15	27.4	— .1	34.3	5	22.5	12
Manila	56.28	— .67	59.66	23	51.38	15	26.7	— .2	32.9	7	22.9	26
San Isidro	56.24	— .62	59.64	23	51.35	15	26.5	— .2	33.9	28	22.3	26
Dagupan	55.83	— .52	59.36	23	50.98	15	27.2	+ .1	34.1	6	22.8	26
Bolinao	55.58	-------	59.36	23	51	15	26.8	-------	32.9	7	22.4	23
Baguio[a]	634.04	— .44	637.28	23	630.10	15	17.8	— .3	25.3	6	14.8	30
Vigan	755.50	0	759.47	23	750.71	15	26.5	— .4	32.2	25	22.1	27, 28
Tuguegarao	55.12	— .28	60.08	24	48.04	16	26.7	-------	37.4	9	21	30
Aparri	54.74	— .38	60.12	24	45.85	28	26.9	+ .1	33.5	17	22.4	30

[a] The barometric readings of this station are not reduced to sea level.

Precipitation.—From the table of rainfall it will be seen that in 28 stations the total amount of rain was greater than last year, and in 20 stations, less. Of the 25 stations, for which the difference between the total amount of the rain for the month and the September normal, is given, 16 have negative differences and only 9 positive. In Manila 227.4 millimeters of rain were collected which gives a difference of +34.1 millimeters compared with the total for September, 1911, and a difference of —132.2 millimeters compared with the normal rainfall of this month.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF SEPTEMBER, 1912.

Station.	Total.	Departure from September, 1911.	Departure from normal.	Rainy days.	Departure from September, 1911.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from September, 1911.	Departure from normal.	Rainy days.	Departure from September, 1911.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*	*mm.*			*mm.*			*mm.*	*mm.*	*mm.*			*mm.*	
Jolo	162.1	+118.5	— 13.3	11	+5	67.3	6	Sumay, Guam	426.7	— 17.2		15	— 7	88.9	15
Isabela, Basilan	104.6	— 34.3		10	—6	29.7	17	Calapan	328.8	+ 143.6		21	— 6	148.1	1
Zamboanga [1]	79.8			8		23.4	19	Virac	104.8	— 53.6		11	— 8	69.1	7
Davao	171	— 83.8	— 31.1	12	+2	54.6	5	Nueva Caceres	248.4	+ 114.3	— 12.1	16	+ 4	53.1	25
Cotabato	192.8		— 52.1	17		81.3	14	Batangas	398.7	+ 138.7		18	+ 4	114.1	1
Cagayan, Misamis	186.6	—135.8		14	—1	60.4	6	Atimonan	356.6	+ 269	+ 70.1	17	+ 1	100.1	7
Dapitan	170.2			11		60.7	6	Silang	438.7	+ 317		17	+ 4	74	1
Butuan	89.2	— 77.7	— 51.6	6	—7	44.2	6	Paracale	251.5	+ 26.4		16	0	64.8	24
Dumaguete	165.8	+ 70.2		13	+1	80	6	Sta. Cruz, Laguna	272.8			25		43.5	1
Yap, W. Carolines	328.2	+ 67.4		25	—4	51	3	Manila	227.4	+ 34.1	—132.2	18	+ 2	38.9	7
Tagbilaran	227	+ 49.1	+ 46.5	11	+1	74.7	6	Antipolo	394.5	+ 38.1?		24	+ 5	69.9	8
Surigao	137.8	— 83.5	— 38.9	13	0	34.6	6	Iba	587.6	— 146.9		28	+ 5	121.2	29
Maasin	360.3	— 6.2	+ 65.6	12	—2	92.2	7	San Isidro	317.1	— 36.6	— 23.3	21	+ 3	99.3	7
Cebu	102.4	— 37.4	— 80.6	12	—2	28.3	6	Tarlac	315.5	+ 33	— 33.6	21	+ 5	41.1	10
Iloilo	369	+ 85.7	+ 55.4	22	+ 5	45.2	6	Baler	171.8	— 120.1		18	+ 1	50	8
San Jose Buenavista	428.6	+128.4		27	0	84.6	7	Dagupan	306	— 243.5	—116.4	25	+10	94.5	29
Cuyo	336.3	—156.8		21	0	80.3	7	Bolinao	351.2			24		119.9	1
Ormoc	222.1	+107.3	— 70.6	12	—6	92	7	Baguio	749.7	— 953.5	— 2.1	28	+ 9	135.3	28
Guiuan	170.5	+ 11.9		5	—3	91.5	6	San Fernando, Union	419	— 46.2	+ 29.7	26	+14	58.7	13
Tacloban	168.1	+ 29.7		9	—4	116	6	Echagüe	297.6	+ 166.5		22	+ 9	53.3	1
Capiz	302.4	+ 88.1	+ 40.6	18	+1	115.4	7	Candon	341.9			23		62.7	25
Borongan	258.4	+136.6	+ 30.5	9	—9	163.9	6	Vigan	553.3	— 136.8	+ 61.2	27	+13	76.2	2
Calbayog	237.3	+114.3	— 66	15	+2	49	25	Tuguegarao	467.6	— 52.6?	+215.8	21	+10	117.7	14
Masbate	149.2	+ 42.7		10	—2	51.3	6	Laoag	292	—1,010.6		27	+16	55.9	27
Romblon	293.2	+117.7		18	+5	62.8	1	Aparri	502.2	+ 41.2	+205.7	22	+ 7	151.7	27
Laoang	183	+127.2		8	—2	49.6	7	Santo Domingo, Batanes	777.3	+ 531.4		20	+ 4	288.3	28
Gubat	180.2	+ 81.8		13	+1	90.2	1								
Legaspi	160	— 33.2	—103.5	22	+5	29.8	13								

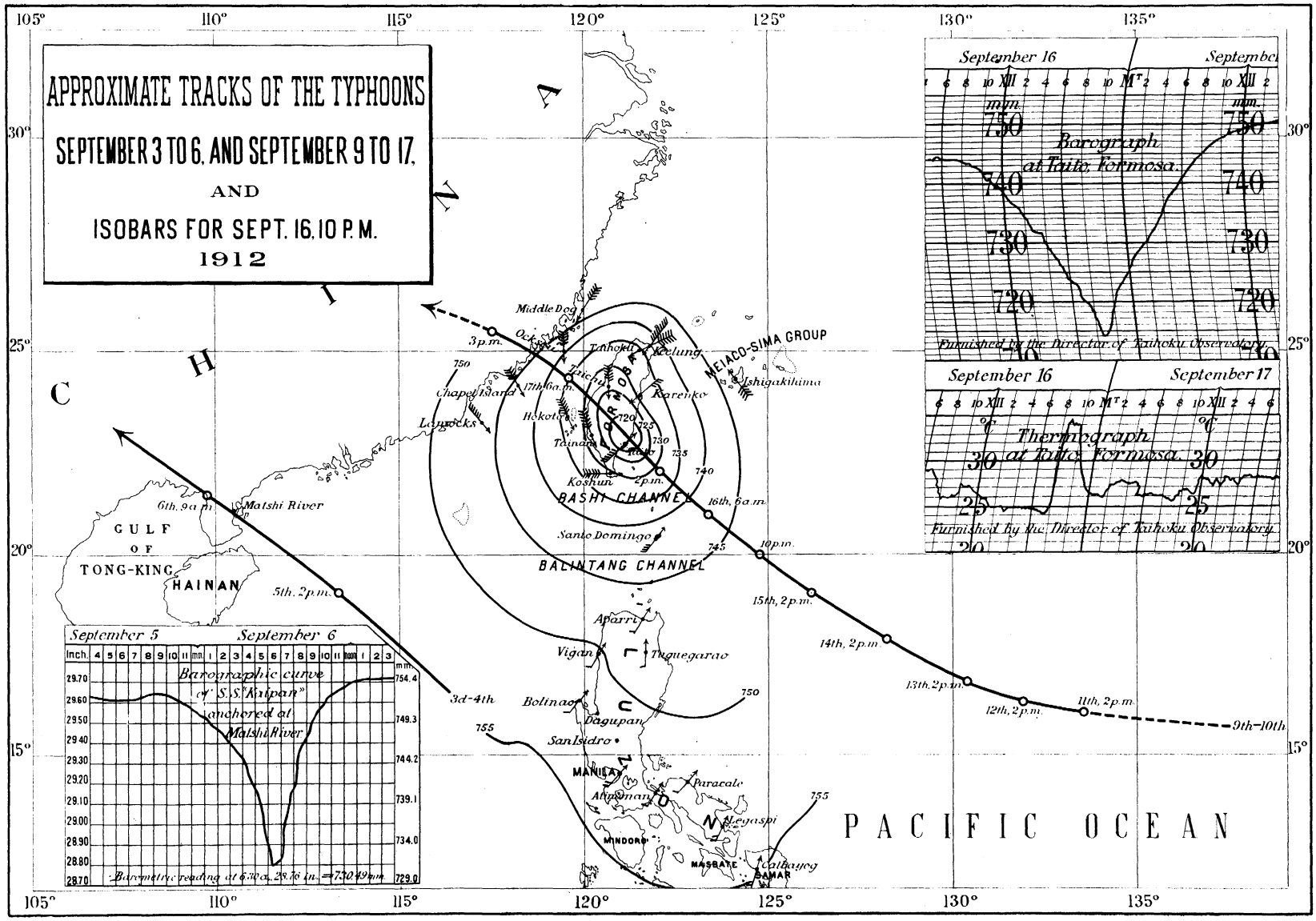
[1] 28 days of observation.

DEPRESSIONS AND TYPHOONS.

Four well developed typhoons occurred during the month in the Far East; of which one struck with destructive violence the coast of China to the north of Hainan, a second one the Island of Formosa, another Japan, and the fourth the northeast extremity of the Island of Luzon. The Observatory also gave notice of other depressions, but all of these were of but slight importance, and only of two of them, can the tracks be given with any degree of certainty.

Typhoon of September 3 to 6, 1912.—This typhoon must have formed in the China sea between Luzon and the Paracels on September 3–4. The observations made on board the steamers *Tean, Zafiro,* and *Taming,* kindly placed at our disposal by the respective captains, have served us admirably for the tracing of the track of this storm from the time of its formation till it reached the continent on the morning of the 6th. (See Plate III.) We are also grateful to the captain of the steamer *Kaipan,* Mr. Robert Douglas, for the observations made on board his ship while in River Matshi, Peninsula of Lieh-Chew, to the north of Hainan. The vortex of the typhoon passed very close to the ship at 6.30 a. m. of the 6th, when the barometric minimum 730.49 millimeters was recorded. A copy of the barographic curve as sent to us by Mr. Douglas is given in Plate III.

Depressions of September 3 to 8, 1912.—From the 3d to the 5th of the month, the observations from Guam and Yap gave indications of a depression situated between the two stations, but much nearer to Yap than to Guam. It is difficult to determine whether or not this was the same depression that appeared on the evening of the 6th to the NW of the Palaos Islands moving towards the Philippines. We are inclined to think that it was not the same depression, but that it recurved to the N and NE during the 6th and 7th, while the second appeared on the 6th to the NW of the Palaos moving to the W and NW till it filled up within the Philippines not far from the south coast of Luzon, between the Islands of Masbate and Romblon. We include the probable tracks of both these depressions in Plate III.



N.B.—The barometric readings for the isobars have been reduced to standard gravity.

The Formosa typhoon, September 16 and 17, 1912.—This typhoon was probably formed during the 9th and 10th of September to the W of the Ladrone or Mariana Islands, between meridians 135° and 140° E and parallels 15° and 16° N. During the first few days up to the 15th inclusive it must have moved very slowly, as may be seen from the track of the typhoon given in Plate III; and it also appears that from the 10th till the 12th or 13th its development and intensity was increasing very considerably. The following typhoon warnings were despatched by the Observatory to the meteorological centers of the Far East from the 11th to the 15th inclusive:

September 11, 4.10 p. m.: Typhoon in the Pacific Ocean about halfway between the Mariana Islands and Luzon moving W or WNW.

September 12, 11.10 a. m.: Typhoon E of northern Luzon, more than 300 miles distant, moving WNW.

September 13, 11.20 a. m.: Typhoon in the Pacific Ocean about halfway between the Mariana Islands and Luzon, almost stationary.

September 14, 12.40 p. m.: Typhoon E of northern Luzon, more than 300 miles distant, moving WNW.

September 15, 1.13 p. m.: Typhoon E of northern Luzon, less than 300 miles distant, moving WNW.

In the weather notes for the same dates published in the papers of the capital, more details were given, and the position of the typhoon was placed more accurately, as may be seen from the following extracts taken from the same weather notes:

September 12, 11.30 a. m.: The typhoon over the Pacific was situated early this morning to the east of northern Luzon at a distance of about 500 miles. It is moving apparently to WNW.

September 13, 12.20 p. m.: The typhoon over the Pacific has remained almost stationary for the last twenty-four hours, to the east of northern Luzon, and at a considerable distance from the Philippines.

September 15, 5 p. m.: The typhoon over the Pacific lies this afternoon to the east of Aparri at a distance from the northeastern end of Luzon, of about 200 miles. It continues moving to WNW toward the Balintang and Bashi Channels.

On the morning of the 16th there was not the slightest doubt that the typhoon threatened to cross the Island of Formosa, as actually happened during the night of the 16th to the 17th. The Observatory announced this danger for Formosa in two notices published in Manila in the morning and afternoon of the 16th. These notices were as follows:

September 16, 10 a. m.: The typhoon lies this morning to the east of Bashi Channel moving NW toward Formosa.

September 16, 6 p. m.: The typhoon continues moving northwest and threatens to cross Formosa by to-night.

As a matter of fact the typhoon crossed the central part of Formosa between 9 p. m. of the 16th and 2 a. m. of the 17th, and struck the island with such violence that according to a letter from Mr. H. Kondo, director of Taihoku Observatory, it caused more damage throughout the whole of the Island than the August typhoon, account of which was given in last month's Bulletin. Mr. Kondo says:

The typhoon was destructive, doing more damage all over the island than that of August. The official statistics of the typhoon damage are as follows:

Persons killed, 107; injured, 293.

Houses wrecked, 91,398; partly wrecked, 115,697.

English steamer *Dacre Castle* (4,361 tons) wrecked at Keelung, and Japanese steamer *Nanyeetsu Maru* (2,100 tons) at near South Cape.

Over and above these data we are indebted to Mr. Kondo for a copy of valuable observations which he has kindly placed at our disposal, together with a typhoon chart and several barographic curves. From these curves we have chosen for reproduction in

Plate III that recorded at Taito, because we can give with it the interesting thermographic curve obtained at the same place during the passage of the vortex over the locality. This curve is interesting in that such an extraordinary rise of temperature has been but rarely observed at the time of the barometric minimum of a typhoon. Between 8 and 9 p. m. of the 16th the minimum reading 713.5 millimeters (712.4 millimeters corrected for gravity) was recorded by the barometer, and coinciding with this minimum there was a rise of 10.5° C. (from 24.1 to 34.6° C.) in temperature as recorded by the thermograph during the short interval of one hour, while from 10 p. m. to 12 midnight it fell back some 8° C. In this connection we may record a similar though not so extraordinary a case that took place in Manila during the famous typhoon of October 20, 1882. Rev. Frederick Faura, the Director of the Observatory at that time, described it thus:

> The thermometer which had stood at 25° C.[1] rose to 31.5° C. and the humidity of the air fell from saturation point to 43, a thing which is observed here only during the months of April and May and even during these months on but very rare occasions. We have it from many persons that wishing to open the windows at the time of the central calm, they were obliged to close them again, because, to use the expression employed by them, *the air burned.*

The Manila Observatory sent the following typhoon warnings to the observatories of Tokyo, Zikawei, Taihoku, Hongkong, and Phulien on the 16th and 17th:

September 16, 9.45 a. m.: Typhoon E of Bashi Channel, moving NW.
September 16, 7 p. m.: Typhoon near or over Formosa, moving NW.
September 17, 11.15 a. m.: Typhoon near or over the Formosa Channel, moving WNW or NW.

If the track of this typhoon as given in Plate III be compared with warnings sent out by the Manila Observatory, it will be seen how exact and valuable the warnings actually were; this exactitude and value is due, we believe, in great part, to the promptness with which the meteorological observations from Formosa are at present received in Manila, and to the frequency with which observations are transmitted from Guam and Yap whenever the barometers of these two stations are below their normal reading. Something similar may be said with regard to the two other typhoons of this month which will be discussed further on.

The Observatory of Hongkong favored us with the following telegrams with reference to the Formosa typhoon:

September 12, 11.45 a. m.: Typhoon NE of Luzon, moving NW.
September 13, noon: Typhoon NE of Luzon stationary.
September 15, 10.15 a. m.: Typhoon E of Luzon, moving W.
September 16, 5.35 p. m.: Typhoon in Formosa, moving WNW.

The Observatory of Zikawei also announced this typhoon to the stations of China coast by means of the following telegrams:

September 11, noon: Typhoon, latitude 15 to 20; longitude 130 to 135, moving NW.
September 12, noon: Typhoon, latitude 20 to 23; longitude 125 to 130, moving WNW.
September 13, 2.45 p. m.: Typhoon, latitude 20 to 23; longitude 125 to 130, moving WNW.
September 14, 9 p. m.: Typhoon, NE of Luzon, moving NW.
September 16, 9 a. m.: Typhoon, E of Balintang Channel, moving NW.
September 16, 6 p. m.: Typhoon, SE of Formosa, moving NW.
September 17, 9 a. m.: Typhoon, N of Formosa Channel, moving NW.
September 17, 5.40 p. m.: Typhoon, on the coast S of latitude 25, moving NW.

The Japanese typhoon, September 23, 1912.—In telegraphic dispatches received by the newspapers of Hongkong and Manila this typhoon was qualified as the worst that had been

[1] From an examination of the observations and curves published by Father Faura together with his report, we think that 24° C. should be written instead of 25° C., so that the rise of temperature was 7, 5° C.

experienced in Japan for the last fifty years. Whatever may be the truth of this statement, it is at least certain that it was a typhoon of extraordinary intensity and caused enormous damage in its passage from SSW to NNE across almost the whole extent of the Japanese Empire. It has been reported that there was heavy loss of life, and property damage estimated at ₱40,000,000.

Thanks to the observations received from Guam, the Manila Observatory was the only one in a position to be able to announce first of all the existence of the typhoon at 1.13 p. m. of the 15th, i. e. more than seven days before it reached Japan. And though it is true that at first the typhoon was moving W in the direction of the Philippines, nevertheless our Observatory was the first to announce on the morning of the 20th that it was recurving to the NE, and hence was dangerous for Japan. The following are the telegrams sent to Tokyo, Zikawei, Taihoku, Hongkong, and Phulien on the 15th, 16th, and 17th:

September 15, 1.13 p. m.: Typhoon E of Guam, direction unknown.
September 16, 9.45 a. m.: Typhoon near or over Guam, moving W or WNW.
September 16, 7 p. m.: Typhoon near or over Guam, moving W.
September 17, 7.50 a. m.: Typhoon W of Guam, moving W.
September 17, 7.30 p. m.: Typhoon in about 13 latitude N and 137 longitude E, moving W.

That the reader may see on what the Observatory founded its predictions of this typhoon, we give below the principal observations made at our station at Guam from the 14th to 17th of September. From them it will be seen that the vortex passed very close to the S of the station at midday of the 6th, moving W.

METEOROLOGICAL OBSERVATIONS AT SUMAY, GUAM, LADRONE ISLANDS, SEPTEMBER 14 TO 17, 1912.

Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Rain 24 hours beginning 6 a. m.	Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Rain 24 hours beginning 6 a. m.
			Direction.	Force.					Direction.	Force.	
September 14:	*mm.*	*mm.*		*0–12.*	*mm.*	September 16:	*mm.*	*mm.*		*0–12.*	*mm.*
2 p. m.	755.83	+0.30	NNE	4		10 a. m.	749.77	−6.53	ENE	9	
4 p. m.	55.33	− .45	NNW	4	12.7	11 a. m.	49.57	−5.81	ENE to E	9	
September 15:						Noon.	48.92	−6.11	ENE to E	9	
6 a. m.	55.35	−1.65	NNW	6		1 p. m.	49.07	−5.71	E	9	
10 a. m.	56.30	− .90	NNW	6		2 p. m.	48.97	−5.03	E to ESE	9	
2 p. m.	54	−1.83	NNW	6–7		3 p. m.	49.27	−4.68	SE	7	
7 p. m.	54.82	−1.42	N	7	88.9	4 p. m.	50.07	−3.38	SE	6–7	
September 16:						5 p. m.	51.10	−2.50	SSE	6	
5 a. m.	51.20	−4.30	NE	8		6 p. m.	51.88	−2.22	S	6	11.5
6 a. m.	50.80	−4.55	NE	8		September 17:					
7 a. m.	51.25	−4.15	NE	9		6 a. m.	55.78	+4.98	SSE	4	
8 a. m.	50.75	−4.35	NE	9		10 a. m.	56.95	+ 7.18	SSE	4	
9 a. m.	50.40	−5.70	ENE	9		2 p. m.	55.93	+ 6.96	S	4	29.2

The Observatory indicated, though only as a surmise, on the 18th, that the typhoon was moving less inclined to the W, than during the previous days, in the following warning sent to the observatories mentioned above.

September 18, 4 p. m.: Typhoon NW of Yap, Western Carolines, moving W or WNW.

On the 19th it was evident that the inclination of the track to the N was sufficiently great to diminish the danger of the storm crossing our Archipelago. The ordinary weather report of that day ran as follows:

September 19, 11.50 a. m.: The typhoon seems to have inclined its track to the north during the last twenty-four hours. The cyclonic center was situated early this morning in about 15° latitude N at a distance from Luzon of over 300 miles. It is moving apparently to-day to WNW or NW. Hence it is not dangerous at least for Manila and the southern part of Luzon.

In the early morning of the 20th it was seen that the typhoon had not only inclined

its track to the north, but that it was recurving toward the NE, and this the Observatory announced in the typhoon warnings of the 20th to 23d.

September 20, 7 a. m.: The typhoon is probably recurving northeastward. No more danger for the Philippines.

September 21, 3 p. m.: The typhoon over the Pacific continues recurving northeastwards. Its center was situated this morning to the southeast of Naha (Loochoo Islands) moving NNE.

September 22, 11.50 a. m.: The typhoon is situated this morning to the east of, and not far from, the Loochoos, and continues moving NNE *toward Japan.*

September 23, 5 p. m.: The typhoon probably reached Japan last night or this morning.

For several days after the 22d we did not receive the meteorological reports from Japan owing to the interruption of telegraphic communication, which made us suspect that the destructive effects of the typhoon in the Empire must have been very considerable, as was confirmed shortly afterwards by the notices that appeared in the local press a few days later. The storm reached Japan shortly after midnight of the 22d, and passed over Kobe at about 4 a. m. of the 23d.

Besides the telegrams mentioned above, the Observatory sent the following to Tokyo, Zikawei, Taihoku, Hongkong, and Phulien on the 19th, 20th, and 21st:

September 19, 12.10 p. m.: Typhoon E of Luzon, more than 300 miles distant, moving WNW or NW.

September 20, 11.15 a. m.: Typhoon E of northern Luzon, more than 300 miles distant, recurving northeastward.

September 21, 4.50 p. m.: Typhoon ESE of Naha (Loochoo Islands), moving NNE.

Although no telegrams were received from the Hongkong Observatory with reference to this typhoon, we copy from the "China Coast Meteorological Register" what that observatory said in the daily weather notes:

September 19, 11.45 a. m.: Pressure has given way slightly over the Philippines under the influence of a typhoon to eastward.

September 20, 12.35 p. m.: The typhoon to the east of northern Luzon now appears to be traveling northward.

September 21, 12.20 p. m.: The typhoon appears to be moving north-eastward; but this requires confirmation from observatories at Formosa and the Loochoos, which are lacking.

September 22, 12.20 p. m.: Yesterday at 2 p. m. the typhoon was about 50 miles to the SE of Naha traveling NNE: no later observations over this district have come to hand.

September 23, 11.42 a. m.: Yesterday at 2 p. m. the typhoon was in about 29 latitude N and longitude 132 E. It is now probably in the vicinity of Kobe.

The Observatory of Zikawei sent the following typhoon warnings to the stations on the China coast:

September 18, 10 a. m.: Typhoon N to W of Yap within 240 miles, direction W.

September 19, 8 a. m.: Two typhoons—one N to W of Yap, beyond 240 miles, direction WNW; another latitude 15 to 20, longitude 130 to 135, direction NW.

September 19, 9 p. m.: Typhoon latitude 20 to 23, longitude 125 to 130, direction NW.

September 20, 9 p. m.: Typhoon latitude 20 to 23, longitude, 125 to 130, direction WNW.

September 21, 8.20 a. m.: Typhoon latitude 20 to 23; longitude 125 to 130, direction NW.

September 21, 2.50 p. m.: Typhoon S Loochoos, direction N.

September 22, 4.30 p. m.: Typhoon NE of Loochoos, direction N.

In Plate IV is reproduced a copy of the barographic curve obtained on board the British steamer *Teucer,* and which was kindly sent to us by Captain Yarwood. The steamer was anchored at Kobe. Observations made at the same place were also received from captain Clark of the British steamer *Palma.*

The typhoon of Cagayan and Batanes Islands, September 27 to 29, 1912.—From the adjoined table of observations made at Sumay, Guam, on September 21 and 22, it will be seen

that between 2 and 3 o'clock of the afternoon of September 21 the wind suddenly backed from NW to SW and later to S, at the same time that the barometer fell to 753 mm; from which it would appear that a whirlwind or a cyclonic center still in the state of formation must have crossed the north part of the Island of Guam moving toward W.

METEOROLOGICAL OBSERVATIONS AT SUMAY, GUAM, LADRONE ISLANDS, FOR SEPTEMBER 21 AND 22, 1912.

Date and hour.	Pressure.	Difference in 24 hours.	Wind.		State of sea and direction of swell.	Rain in 24 hours, beginning 6 a. m.	Remarks.
			Direction.	Force.			
September 21:	*mm.*	*mm.*		*0–12.*		*mm.*	
6 a. m	757.58	— 1.17	NE	5	Moderate from W		Thunderstorm in the early morning.
2 p. m	55.52	— 1.68	N	5	Increasing swell		At 1 p. m. wind backed to N; heavy rain from 2 p. m. to 4 p. m. (2.50 inches=63.5 millimeters fell).
2.30 p. m	54.79	— 2.31	NW	5	Rough from NW		
3 p. m	53.87	— 3.13	SW	3	do		
3.30 p. m	53.02	— 3.98	SW	6	do		
4 p. m	53.02	— 3.98	S	7	do		
4.30 p. m	53.84	— 3.16	SSW	7	do		Lower clouds travelling rapidly from S.
5 p. m	55.12	— 1.98	S	6	do		
6 p. m	56.47	— 1.33	SE	4	do		
8 p. m	57.87	— 0.33	SSE	3	do	71.1	
September 22:							
6 a. m	57.90	— 0.32	S	2	Slight from NW		
Noon	58.48	+ 1.58	SE	3	do		
2 p. m	57.60	+ 2.08	SE	3	do	1.3	

This was probably the same typhoon in a state of greater development which appeared to the NW of Yap on the 23d, and which broke over the northeast extremity of the island of Luzon, five days later, i. e., September 28. The Manila Observatory sent out its first warning of this typhoon at 7.15 p. m. of the 23d, though without determining the direction in which it was moving. In the afternoon of the 24th, its direction was given as moving to the W, while on the 26th at 9.30 a. m. it was announced that the typhoon had inclined its track to the N:

September 26, 9.30 a. m.: The typhoon is situated this morning to the E of southern Luzon at a distance of about 300 miles. It has inclined its track to the north and seems to be moving at present to NW or NWbyW.

At 3.30 p. m. of the same day the following warning, which determined the approximate position of the vortex with more precision, was sent out:

September 26, 3.30 p. m.: The typhoon continues moving NW or NWbyW, its center being situated this afternoon in about 127° longitude E and 15° latitude N.

On the following day at 11.50 a. m. it was clearly indicated that there was danger of the vortex passing over the Province of Cagayan in the north of Luzon.

September 27, 11.50 a. m.: The typhoon is approaching this morning the northeastern part of Luzon moving apparently to NWbyW or WNW. It may pass over or very near the Cagayan Province by to-night.

At 10 p. m. of the same date, this was confirmed in a note sent to the newspapers of the capital:

September 27, 10 p. m.: The typhoon lies at present near or over the eastern coast of Cagayan Province, in northern Luzon, moving apparently to NWbyW.

It was seen a few days later, when the first news of the destruction caused by the storm in the northern part of the Province of Cagayan reached Manila, how accurate were these typhoon warnings given out by the Observatory. "The Manila Times" of October 8 gives the following details:

The first news of the terrible typhoon which swept the northern end of Luzon on September 28 was brought to the city by Captain Ugarte of the steamer *Sorsogon*, which arrived here Sunday from San Vicente, Aparri and other northern ports.

"The people told me that the typhoon was one of the worst ones that had visited their locality for many years," Captain Ugarte said to a Times reporter.

"From what I learned, few places escaped the storm on the northern coast: but its greatest fury fell upon the little village called San Vicente, situated on the northeast point of Cagayan province where several persons are reported to have been killed by the heavy seas which swept clean over the beach. Some of the waves were ten feet high and practically lifted the small nipa houses from their uprights tossing them about as if they had been pieces of cork in the seething seas. Many people were injured by flying pieces of wreckage and others by floating pieces of timber.

"The lighthouse on Palaui Island off Cape Engaño was swept clear off the ground by the force of the wind, and barotos and bancas were found washed ashore buried under the wreckage of the buildings. The town of Aparri also had its share of the storm including wrecked buildings, unroofed houses and damaged roads. No casualties have been reported from this place. The buoy marking the channel at Aparri was washed away by the seas and had not been found when I left Aparri."

As may be seen from the track of this typhoon as given in Plate IV, the vortex did not cross the meridian of Aparri, but when it reached the northeast part of the Province of Cagayan it began to recurve to the N and NNE. The Observatory announced this change of direction in several typhoon warnings of the 28th and 29th, which will be mentioned later, and in the following weather note of 5.30 p. m. of the 29th.

September 29, 5.30 p. m.: The typhoon which was situated yesterday morning in the neighborhood of Aparri, inclined its track to the north, and passed last night over or very near the Batanes Islands. Its center lies this afternoon to the east of southern Formosa moving apparently to NNE.

As a matter of fact, the vortex passed so close to the Batanes Islands that it caused the barometer at Santo Domingo to fall to 730.4 millimeters at 11.30 p. m. of the 28th. This minimum was below that of Aparri by some 10 millimeters.

In the following table we give some of the observations made at Aparri on the 27th and 28th and at Santo Domingo, Batanes Islands, on the 28th and 29th:

METEOROLOGICAL OBSERVATIONS FOR SEPTEMBER 27 TO 29, 1912.

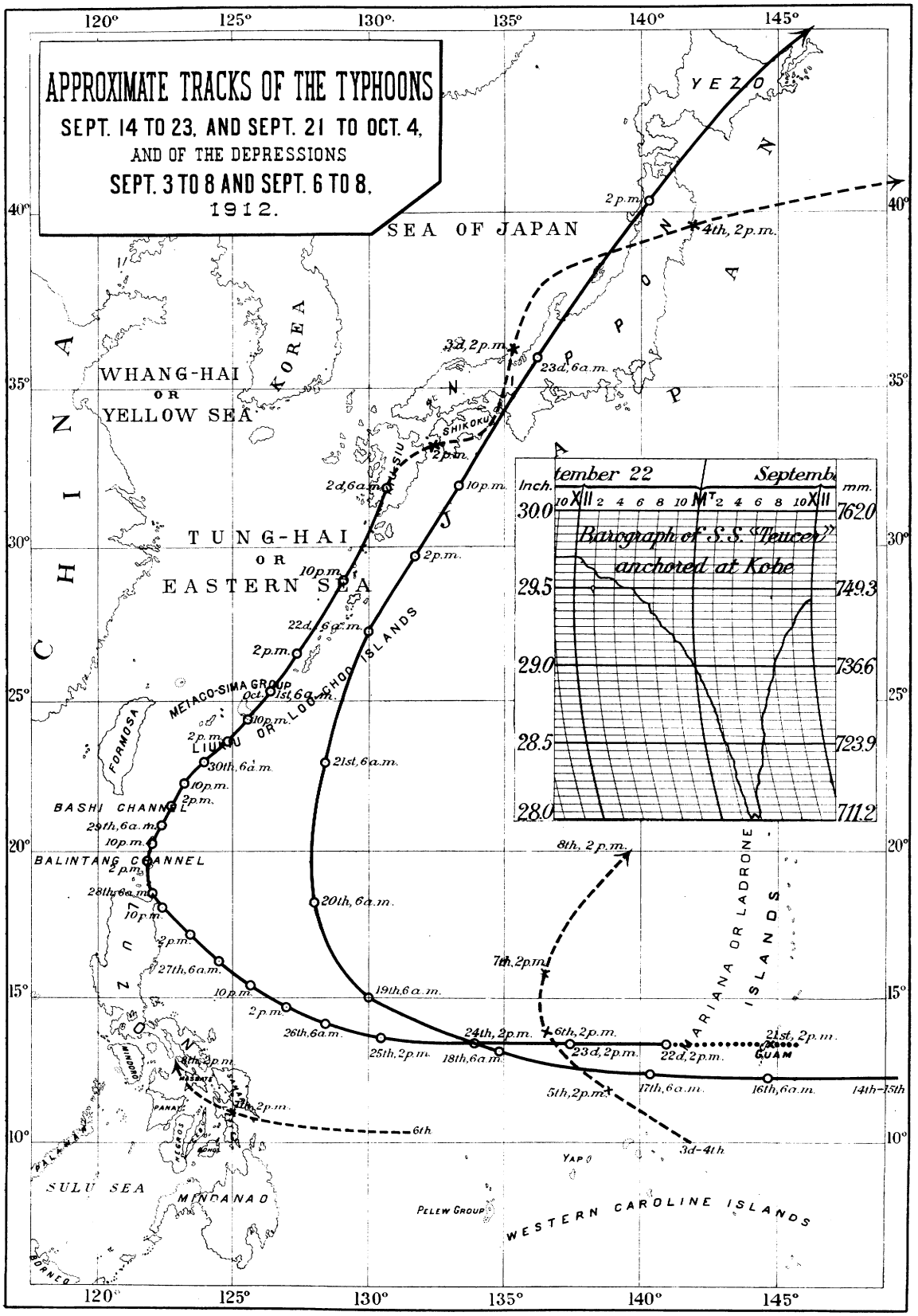
Aparri.						Santo Domingo.					
Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Rainfall.	Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Rainfall.
			Direction.	Force.					Direction.	Force.	
September 27:	*mm.*	*mm.*		*0–12.*	*mm.*	September 28:	*mm.*	*mm.*		*0–12.*	*mm.*
6 a. m	754.73	— 3.21	NNE	3	[a]11	6 a. m	750.60	— 6.69	NNE	6–7	[b]64.3
10 a. m	54.48	— 4.70	NNE	5	13	8 a. m	50.15		NNE	6	50.8
2 p. m	52	— 5.11	NNE	4	38.1	10 a. m	48.79		NNE	7	50.8
6 p. m	49.65	— 7.06	N	6	16.3	Noon	46.89		ENE	2	20.1
8 p. m	48.55	— 9.35	N	5		2 p. m	43.65	—11.53	E	6	
10 p. m	46.57	—11.14	N	8	18	4 p. m	39.88		ENE	8	
Midnight	43.59	—13.56	NNW	8		6 p. m	35.02	—19.46	NNE	8	46.2
September 28:						8 p. m	34.03		NE	8	
2 a. m	41.40	—14.33	NW	10	41.4	10 p. m	32.46	—21.49	NNE	8	55.1
4 a. m	40.29		NW	6		11.30 p. m	30.42		N	10	
6 a. m	39.16	—15.57	NW	10	24.9	Midnight	30.67		N	10	
7 a. m	39.77		WNW	8		September 29:					
8 a. m	41.60	—13.93	W	8		2 a. m	35.07		NNW	7	
10 a. m	44.24	—10.34	W	5	31.7	6 a. m	42.13	— 8.47	NW	8	65.3
Noon	46.07	— 7.43	W	5		10 a. m	46.64	— 2.15	W	6	57.1
2 p. m	47.73	— 4.27	W	5	11.9	2 p. m	47.46	+ 3.81	WSW	5	51.8
6 p. m	50.34	+ .69	W	3	6.1	6 p. m	50.40	+15.38	SW	3	16.9
10 p. m	52.25	+ 5.68	W	1	.5	10 p. m	51.81	+19.35	SW	1	

[a] Rainfall from 6 p. m. to 6 a. m.

[b] Rainfall from 2 p. m. to 6 a. m.

From the Batanes Islands the typhoon headed NNE crossing the Loochoos on September 30 and October 1st, and reached Japan at daybreak of the 2d. At 6 a. m. of the 2d it still appeared as a well-developed typhoon; but soon after it changed into a depression of little importance, as was evident from the weather maps of 2 p. m. of the 2d to 2 p. m. of the 4th.

Plate IV.


APPROXIMATE TRACKS OF THE TYPHOONS
SEPT. 14 TO 23, AND SEPT. 21 TO OCT. 4,
AND OF THE DEPRESSIONS
SEPT. 3 TO 8 AND SEPT. 6 TO 8,
1912.
SEA OF JAPAN
YEZO
KOREA
WHANG-HAI
OR
YELLOW SEA
TUNG-HAI
OR
EASTERN SEA
CHINA
JAPAN
SHIKOKU
METACO-SIMA GROUP
LOO-CHOO ISLANDS
FORMOSA
BASHI CHANNEL
BALINTANG CHANNEL
LUZON
MINDORO
PANAY
NEGROS
CEBU
BOHOL
PALAWAN
SULU SEA
MINDANAO
BORNEO
PELEW GROUP
YAP
WESTERN CAROLINE ISLANDS
ARIANA OR LADRONE ISLANDS
GUAM
Barograph of S.S. "Teucer" anchored at Kobe
inch.
mm.
30.0
29.5
29.0
28.5
28.0
762.0
749.3
736.6
723.9
711.2
120°
125°
130°
135°
140°
145°
40°
35°
30°
25°
20°
15°
10°

We copy the typhoon warnings sent by the Manila Observatory to the observatories of Tokyo, Zikawei, Taihoku, Hongkong and Phulien:

September 23, 7.15 p. m.: Typhoon NW of Yap, direction unknown.
September 24, 3.45 p. m.: Typhoon E of the northern Visayas or southeastern Luzon, moving W.
September 25, 11.35 a. m.: Typhoon E of the northern Visayas or southeastern Luzon, almost stationary.
September 26, 9.30 a. m.: Typhoon E of southern Luzon, moving NW.
September 27, 8.50 a. m.: Typhoon E of Luzon, less than 300 miles distant, moving NW.
September 27, 9.30 p. m.: Typhoon crossing northern Luzon, moving WNW or NW.
September 28, 11.30 a. m.: Typhoon near or over Aparri, moving WNW or NW.
September 28, 6 p. m.: Typhoon near or over Balintang Channel, inclining northward.
September 29, 9.35 a. m.: Typhoon near or over Bashi Channel, moving N or NNE.
September 29, 6.25 p. m.: Typhoon E of southern Formosa, moving NNE or NE.
September 30, 12.15 p. m.: Typhoon near or over Meiacosima, moving NNE or NE.

We received the following from the Observatory of Hongkong:

September 27, 11.10 a. m.: Typhoon E of Luzon, moving WNW.
September 28, 11 a. m.: Typhoon in N Luzon, moving NW.
September 29, 10.30 a. m.: Typhoon near Bashi Channel, moving N.

The Observatory of Zikawei was also following up the track of this typhoon in the telegrams sent to the stations of the China coast:

September 24, 10 a. m.: Typhoon N to W of Yap, beyond 240 miles, direction WNW.
September 24, 9 p. m.: Typhoon far east of the Philippines, direction WNW.
September 25, 10 a. m.: Typhoon far east of the Philippines, direction NW.
September 26, noon: Typhoon E of Luzon, direction NW.
September 27, 11 a. m.: Typhoon E of Luzon, direction NW.
September 28, 10 a. m.: Typhoon NW of Luzon, moving NW.
September 29, 8.30 a. m.: Typhoon Balintang Channel, direction N.
September 29, 4.40 p. m.: Typhoon Bashi Channel, direction N.
September 30, 9.15 a. m.: Typhoon E of Formosa, direction NNE.
September 30, 11.30 a. m.: Typhoon SW of Meiacosima, direction NE.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes ha sido casi en todas partes algo menor que la de Septiembre del año próximo pasado. La de Manila difiere de la normal de este mes en −1.16 mm., y de la de Septiembre, 1911, en −0.67 mm. Las presiones mayores se observaron generalmente el día 23, y las menores el 15. En Aparri, sin embargo, fué el 28 el día de presiones más bajas, debido al último baguio del mes que, según veremos, tocó la parte nordeste de la Provincia de Cagayán.

La temperatura media normal se diferencia en general muy poco de la del año pasado. La de Manila es inferior en 0.2° C así a la normal como a la media de Septiembre, 1911.

Precipitación acuosa.—Según la tabla de lluvia que acompaña el texto inglés, 28 estaciones nos dan este mes un total de lluvia mayor que el año anterior, contra 20 que lo dan menor. De 25 estaciones para las cuales damos las diferencias de la cantidad mensual de lluvia comparada con la normal de Septiembre, 16 aparecen con diferencias negativas y solas 9 con diferencias positivas. En Manila se han recogido en todo el mes 227.4 mm. de agua, resultando una diferencia de +34.1 mm. con respecto al total de Septiembre, 1911, y de −132.2 mm. con respecto a la normal de este mes.

DEPRESIONES Y TIFONES.

Cuatro tifones bien desarrollados han ocurrido este mes en el Extremo Oriente, de los cuales desfogaron con violencia destructora uno en la costa de China al N de Hainán, otro en Formosa, otro en Japón y otro en la extremidad nordeste de la Isla de Luzón. Otras perturbaciones atmosféricas anunció también el Observatorio; pero todas fueron de poca importancia y sólo de dos de ellas podemos dar las trayectorias con alguna probabilidad.

Tifón de 3 a 6 de Septiembre, 1912.—Este tifón hubo de formarse del 3 al 4 de Septiembre en el Mar de China entre Luzón y las Islas Paracels. Las observaciones hechas a bordo de los vapores *Tean, Zafiro* y *Taming,* las cuales agradecemos a sus respectivos capitanes, nos han servido admirablemente para trazar la trayectoria de este baguio desde su formación hasta que llegó al Continente la mañana del día 6 (véase la lámina III). Asimismo debemos agradecer al Comandante del vapor *Kaipan,* Mr. Robert Douglas, las observaciones hechas en el río Matshi, Península de Lieh-Chew, al N de Hainán. El vórtice del tifón pasó muy cerca por el sur de dicho vapor a 6.30 a. m. del día 6, hora en que se observó la mínima barométrica 730.49 mm. Una copia de la curva barográfica, tal como nos la remitió el citado Comandante del *Kaipan,* va incluída en la lámina III.

Depresiones de 3 a 8 de Septiembre, 1912.—Del 3 al 5 de este mes las observaciones de Guam y Yap daban indicios de una depresión situada entre ambas estaciones, aunque mucho más cerca de la segunda. Muy difícil es definir si fué o no esta la misma depresión que apareció la tarde del día 6 al NW de las Islas Palaos moviéndose en dirección a Filipinas. Nosotros suponemos como más probable que no, sino que la una recurvó al N y NE durante los días 6 y 7, y la otra apareció el día 6 al NW de Palaos moviéndose al W y NW hasta que se deshizo dentro de Filipinas no lejos de la costa sur de Luzón, entre las Islas Masbate y Romblón. Incluímos como probables las trayectorias de ambas depresiones en lámina III.

El tifón de Formosa: 16 y 17 de Septiembre, 1912.—Este tifón se formó probablemente durante los días 9 y 10 de Septiembre al W de las Islas Ladrones o Marianas entre los meridianos 135° y 140° E y los paralelos 15° y 16° N. Durante los primeros días y aun hasta el 15 inclusive hubo de moverse con mucha lentitud, según puede verse por la trayectoria que damos de este tifón en la lámina III. También parece probable que del 10 al 12 o 13 fuese aumentando considerablemente en desarrollo e intensidad.

Véanse a continuación los avisos de tifón enviados por el Observatorio de Manila a

los demás centros meteorológicos del Extremo Oriente desde el día 11 hasta el 15 ambos inclusive:

Día 11, 4.10 p. m.: Tifón en el Océano Pacífico, a la mitad de camino entre las Islas Marianas y Luzón, moviéndose al W o WNW.

Día 12, 11.10 a. m.: Tifón al E de la parte norte de Luzón, distancia mayor de 300 millas, moviéndose al WNW.

Día 13, 11.20 a. m.: Tifón en el Océano Pacífico, a la mitad de camino entre las Islas Marianas y Luzón, casi estacionario.

Día 14, 12.40 p. m.: Tifón al E de la parte norte de Luzón, distancia mayor de 300 millas, moviéndose al WNW.

Día 15, 1.13 p. m.: Tifón al E de la parte norte de Luzón, distancia menor de 300 millas, moviéndose al WNW.

En las notas del tiempo de estos mismos días publicadas en los periódicos de la Capital, se daban algunos detalles más y se fijaba mejor la posición del tifón, como puede verse por los siguientes párrafos que entresacamos de las mismas:

Día 12, 11.30 a. m.: El tifón del Pacífico se hallaba esta madrugada al E de la parte norte de Luzón y a la distancia de unas 500 millas. Se mueve aparentemente al WNW.

Día 13, 12.20 p. m.: El tifón del Pacífico ha permanecido casi estacionario durante las últimas veinticuatro horas al E del norte de Luzón y a una distancia considerable de Filipinas.

Día 15, 5 p. m.: El tifón del Pacífico se halla esta tarde al E de Aparri y a una distancia de unas 200 millas de la extremidad nordeste de Luzón. Continúa moviéndose al WNW en dirección a los canales Balintang y Bashi.

El día 16 por la mañana no cabía ya la menor duda de que el baguio amenazaba cruzar la Isla de Formosa como así sucedió en realidad la noche de dicho día. El Observatorio anunció este peligro para Formosa en dos avisos de tifón distribuídos en Manila la mañana y tarde del 16. Son como siguen:

Día 16, 10 a. m.: El tifón se halla esta mañana al E del canal de Bashi moviéndose al NW hacia Formosa.

Día 16, 6 p. m.: El tifón continúa moviéndose al NW y amenaza cruzar Formosa esta noche.

En efecto, el tifón atravesó la parte central de Formosa entre 9 p. m. del 16 y 2 a. m. del 17, desfogando con tanta violencia que, según carta de Mr. H. Kondo, Director del Observatorio de Taihoku, causó en toda la Isla mayores destrozos que el tifón de Agosto de que hablamos en el Boletín del mes anterior. Estas son las palabras de Mr. Kondo:

El tifón fué destructor causando más daño en toda la Isla que el tifón de Agosto. Las estadísticas oficiales de los daños del tifón son como siguen: personas muertas, 107; heridas, 293; casas enteramente destruídas, 91,398; casas parcialmente destruídas, 115,697. El vapor inglés *Dacre Castle* (de 4,361 toneladas) naufragó en Keelung y asimismo el vapor japonés *Nanyestsu Maru* (de 2,100 toneladas) cerca del Cabo Sur.

Además de estos datos agradecemos a Mr. Kondo la copia de valiosas observaciones que se dignó remitirnos juntamente con la trayectoria del tifón y varias curvas barográficas. De todas estas curvas hemos escogido para reproducir en la lámina III la registrada en Taito ya que juntamente con ella podemos reproducir la interesante curva termográfica obtenida allí durante el paso del vórtice por aquella localidad. Llamamos esta curva interesante porque poquísimas veces se habrá observado al tiempo de la mínima barométrica de un tifón una subida tan extraordinaria y tan rápida de temperatura. Entre 8 y 9 p. m. del 16 alcanzó el barómetro la mínima lectura 713.5 mm. (712.4 mm. corregida por gravedad) coincidiendo esta mínima con una subida del termógrafo de unos 15.5° C (de 24.1 a 34.6° C.) en el intervalo de una hora próximamente, volviendo a bajar unos 8°C de 10 p. m. a 12 mn. Recordamos aquí a este propósito otro caso parecido, aunque no tan notable, observado en Manila cuando el famoso tifón de 20 de Octubre 1882. Estas

son las palabras con que lo describe el entonces Director del Observatorio, P. Federico Faura:

> De 25° C.[1] en que se hallaba el termómetro subió a 31.5° C.; y del estado de saturación del aire baja hasta 43 de humedad, cosa que sólamente se observa aquí, y en muy raras ocasiones, en los meses de Abril y Mayo. A varias personas hemos oído decir que, queriendo abrir la ventana en el momento de la calma, se vieron precisadas a cerrarla inmediatamente porque *el aire quemaba;* esa era la expresión que usaban.

El Observatorio de Manila envió los días 16 y 17 los siguientes avisos de tifón a los Observadores de Tokio, Zikawei, Taihoku, Hongkong y Phulien:

Día 16, 9.45 a. m.: Tifón al E del canal de Bashi, moviéndose al NW.
Día 16, 7 p. m.: Tifón en, o cerca de, Formosa, moviéndose al NW.
Día 17, 11.15 a. m.: Tifón en el, o cerca del, canal de Formosa, moviéndose al WNW o NW.

Comparen nuestros lectores la trayectoria de este tifón que publicamos en la lámina III con los avisos de tifón dados por el Observatorio de Manila y que hemos ido mencionando en este escrito y sin duda echarán de ver por sí mismos la exactitud y valor de estos avisos de tifón: exactitud y valor que creemos deber atribuir en gran parte a la mucha prontitud con que se reciben actualmente en Manila los servicios meteorológicos de Formosa y a la frecuencia con que se nos remiten observaciones de Guam y Yap siempre que el barómetro de dichas estaciones se halla debajo de su altura normal. Algo parecido podríamos decir de los otros dos tifones de este mes de que hablaremos luego.

El Observatorio de Hongkong nos favoreció con estos telegramas referentes a este tifón de Formosa:

Día 12, 11.45 a. m.: Tifón al NE de Luzón, moviéndose al NW.
Día 13, 12 mediodía: Tifón al NE de Luzón, estacionario.
Día 15, 10.15 a. m.: Tifón al E de Luzón, moviéndose al W.
Día 16, 5.35 p. m.: Tifón en Formosa, moviéndose al WNW.

El Observatorio de Zikawei anunció también este tifón a las estaciones de la costa de China por medio de estos telegramas:

Día 11, mediodía: Tifón en latitud 15° a 20°, longitud 130° a 135°, moviéndose al NW.
Día 12, mediodía: Tifón en latitud 20° a 23°, longitud 125° a 130°, moviéndose al WNW.
Día 13, 2.45 p. m.: Tifón en latitud 20° a 23°, longitud 125° a 130°, moviéndose al WNW.
Día 14, 9 p. m.: Tifón al NE de Luzón, moviéndose al NW.
Día 16, 9 a. m.: Tifón al E del canal de Balintang, moviéndose al NW.
Día 16, 6 p. m.: Tifón al SE de Formosa moviéndose al NW.
Día 17, 9 a. m.: Tifón N del canal de Formosa, moviéndose al NW.
Día 17, 5.40 p. m.: Tifón en la costa al S de 25° latitud, moviéndose al NW.

El tifón de Japón: 23 de Septiembre, 1912.—Este tifón ha sido calificado en despachos telegráficos a los periódicos de Hongkong y Manila como el peor que ha desfogado en Japón durante los últimos 50 años. Sea lo que fuere de la exactitud de este aserto, ello es cierto que fué un tifón de extraordinaria intensidad y que causó muy grandes estragos al atravesar de SSW a NNE casi toda la extensión del imperio japonés. Se dijo que hubo muchas víctimas y que se calculaban las pérdidas materiales en ₱40,000,000.

Gracias a las observaciones recibidas de Guam, el Observatorio de Manila es el único que se halló en condiciones de anunciar por vez primera la existencia de este tifón a 1.13 p. m. del día 15, es decir, más de siete días antes que llegase a Japón. Y aunque es verdad que al principio el tifón se movía al W en dirección a Filipinas, sin embargo también fué

[1] Según las observaciones y curvas que hemos consultado y que se publicaron juntamente con el report del P. Faura, creemos que debe decir 24° C. en vez de 25° C.; de suerte que la subida de temperatura fué de 7.5° C.

el primero el Observatorio de Manila en anunciar la mañana del 20 que el tifón recurvaba al nordeste y que por lo tanto era peligroso para Japón.

Los telegramas enviados por el Observatorio de Manila los días 15, 16 y 17 a Tokio, Zikawei, Taihoku, Hongkong y Phulien son como siguen:

Día 15, 1.13 p. m.: Tifón al E de Guam, dirección desconocida.
Día 16, 9.45 a. m.: Tifón en, o cerca de, Guam, moviéndose al W o WNW.
Día 16, 7 p. m.: Tifón en, o cerca de, Guam, moviéndose al W.
Día 17, 7.50 a. m.: Tifón al W de Guam, moviéndose al W.
Día 17, 7.30 p. m.: Tifón en los alrededores de 137° longitud E y 13° latitud N, moviéndose al W.

Para que vean nuestros lectores en qué se fundaba el Observatorio al dar estos avisos de tifón publicamos en una tabla que acompaña el texto inglés las principales observaciones hechas en nuestra estación de Guam desde el 14 al 17 ambos inclusive. Por ellas se ve que el vórtice pasó a eso de mediodía del 16 muy cerca por el S de aquella estación moviéndose al W.

Que el tifón no se movía el 18 tan inclinado al W como los días anteriores lo indicaba el Observatorio, aunque sólamente con alguna sospecha, en el siguiente aviso de tifón enviado a los Observatorios Centrales arriba mencionados:

Día 18, 4 p. m.: Tifón al NW de Yap, Carolinas Occidentales, moviéndose al W o WNW.

El 19 ya no teníamos duda de que la inclinación de la trayectoria al N era bastante considerable y de que iba desapareciendo por lo tanto el peligro de que el baguio cruzase nuestro Archipiélago. Véase lo que se dijo en la nota ordinaria del tiempo de dicho día:

Día 19, 11.50 a. m.: El tifón parece haber inclinado su trayectoria al N durante las últimas veinticuatro horas. El centro ciclónico se hallaba esta madrugada en los alrededores de 15° latitud N y a una distancia de Luzón de más de 300 millas. Se mueve hoy aparentemente al WNW o NW. De ahí que no es peligroso al menos para Manila y la parte sur de Luzón.

Desde las primeras horas del día 20 se vió que el tifón no sólo había inclinado su trayectoria al Norte sino que iba recurvando hacia el nordeste. Así lo anunció el Observatorio en las siguientes notas del tiempo o avisos de tifón de los días 20 a 23:

Día 20, 7 a. m.: El tifón está recurvando probablemente hacia el nordeste. Ha cesado el peligro para Filipinas.
Día 21, 3 p. m.: El tifón del Pacífico continúa recurvando al nordeste: su centro se hallaba esta mañana al SE de Naha (Islas Liukiu), moviéndose al NNE.
Día 22, 11.50 a. m.: El tifón se halla esta mañana al E y no lejos de las Islas Liukiu, moviéndose al NNE *en dirección al Japón.*
Día 23, 5 p. m.: El tifón llegó probablemente al Japón la noche pasada o esta mañana.

Por espacio de varios días después del 22 dejamos de recibir los servicios meteorológicos de Japón por interrupción de las líneas telegráficas, lo cual nos hizo sospechar desde luego que los efectos destructores del tifón en aquel imperio debían de haber sido de mucha consideración, según se confirmó bien pronto con las tristes noticias que aparecieron en la prensa local algunos días más tarde. El vórtice penetró en Japón poco después de media noche del 22, y pasó por Kobe a eso de 4 a. m. del 23.

Además de los telegramas ya indicados arriba, el Observatorio de Manila envió los siguientes a Tokio, Zikawei, Taihoku, Hongkong y Phulien los días 19, 20 y 21:

Día 19, 12.10 p. m.: Tifón al E de Luzón, distancia mayor de 300 millas, moviéndose al WNW o NW.
Día 20, 11.15 a. m.: Tifón al E de la parte norte de Luzón, distancia mayor de 300 millas, recurvando al nordeste.
Día 21, 4.50 p. m.: Tifón al ESE de Naha (Islas Liukiu), moviéndose al NNE.

Aunque no recibimos ningún telegrama de Hongkong referente a este tifón, sin embargo copiaremos aquí del "China coast Meteorological Register" lo que sobre él dijo dicho Observatorio en las notas diarias del tiempo:

Día 19, 11.45 a. m.: La presión atmosférica ha bajado ligeramente en Filipinas bajo la influencia de un tifón al este.

Día 20, 12.35 p. m.: El tifón al E del norte de Luzón parece moverse ahora al norte.

Día 21, 12.20 p. m.: El tifón parece moverse hacia el nordeste; pero esto necesita confirmarse con las observaciones de Formosa y Liukiu, las cuales no se han recibido aún.

Día 22, 12.20 p. m.: Ayer a 2 p. m. el tifón se hallaba a más de 50 millas al SE de Naha moviéndose al NNE. No se han recibido más observaciones de dicha región.

Día 23, 11.42 a. m.: Ayer a 2 p. m. el tifón se hallaba en los alrededores de 29° N y 132° E. Probablemente se halla ahora en las cercanías de Kobe.

El Observatorio de Zikawei envió los siguientes avisos de tifón a las estaciones de la costa de China:

Día 18, 10 a. m.: Tifón hacia el NW de Yap, distancia menor de 240 millas, dirección W.

Día 19, 8 a. m.: Dos tifones: uno hacia el NW de Yap, distancia mayor de 240 millas, moviéndose al W; otro latitud 15° a 20°, longitud 130° a 135°, dirección NW.

Día 19, 9 p. m.: Tifón latitud 20° a 23°, longitud 125° a 130°, dirección NW.

Día 20, 9 p. m.: Tifón latitud 20° a 23°, longitud 125° a 130°, dirección WNW.

Día 21, 8.20 a. m.: Tifón latitud 20° a 23°, longitud 125° a 130°, dirección NW.

Día 21, 2.50 p. m.: Tifón al S de Liukiu (Loochoos), dirección N.

Día 22, 4.30 p. m.: Tifón al NE de Liukiu (Loochoos), dirección N.

En la lámina IV reproducimos una copia de la curva barográfica registrada en Kobe a bordo del vapor inglés *Teucer* la cual debemos agradecer a la amabilidad del Capitán Yarwood. Observaciones hechas en el mismo puerto de Kobe nos fueron igualmente remitidas por el capitán Clark del vapor inglés *Palma.*

El tifón de Cagayán e Islas Batanes: 27 a 29 de Septiembre, 1912.—En el texto inglés podrán ver nuestros lectores las observaciones hechas en Sumay, Guam, los días 21 y 22 de Septiembre. Dada la rapidez con que los vientos saltaron del NW al SW y S la tarde del día 21 al propio tiempo que los barómetros bajaban hasta 753 mm., parece muy probable que un pequeño remolino o tal vez mejor, si se quiere, un centro ciclónico en estado aún de formación atravesó la parte norte de la Isla de Guam moviéndose en dirección al W.

Tenemos como muy probable que fué este el tifón que ya más desarrollado apareció hacia el NW de Yap el día 23, y que vino a desfogar cinco días más tarde, o sea el 28, en la extremidad nordeste de la Isla de Luzón.

El Observatorio de Manila envió su primer aviso sobre este tifón a las 7.15 p. m. del 23, aunque sin determinar aún su dirección. El 24 por la tarde se dijo que se movía al W, y el 26 a 9.30 a. m. se indicó que había inclinado su trayectoria al N en estos términos:

El tifón se halla esta mañana al E de la parte sur de Luzón a la distancia de unas 300 millas. Ha inclinado su trayectoria al norte y parece moverse al presente al NW o NW¼W.

A las 3.30 p. m. del mismo día se dió el siguiente aviso determinando con más precisión la posición aproximada del vórtice:

El tifón continúa moviéndose al NW o NW¼W, hallándose su centro esta tarde en los alrededores de 127° longitud E y 15° latitud N.

El día siguiente a las 11.50 a. m. se indicaba claramente el peligro de que el vórtice pasase por la Provincia de Cagayán, en el norte de Luzón:

El tifón se acerca esta mañana a la parte nordeste de Luzón moviéndose aparentemente al WNW o NW¼W. Es probable que atraviese esta noche o pase muy cerca de la Provincia de Cagayán.

A las 10 p. m. del mismo día 27 se confirmó casi lo mismo con esta nota dada a los periódicos de la Capital:

El tifón se halla al presente en o cerca de la costa este de la Provincia de Cagayán, en el norte de Luzón, moviéndose aparentemente al NW¼W.

Cuán acertados fuesen estos avisos de tifón dados por el Observatorio de Manila se vió unos días más tarde cuando llegaron a Manila las primeras noticias de los efectos destructores causados por este baguio en la parte nordeste de la Provincia de Cagayán. El periódico "The Manila Times" del 8 de Octubre dió los siguientes pormenores sobre el particular:

Las primeras noticias del terrible tifón que barrió la extremidad norte de Luzón el 28 de Septiembre llegaron a Manila por medio del Capitán Ugarte del vapor *Sorsogón* que llegó aquí el Domingo procedente de San Vicente, Aparri, y pueblos del norte.

"Me aseguraron, dijo el Capitán Ugarte a un reporter del "Times," haber sido este uno de los peores tifones que han visitado aquellos pueblos en muchos años. * * *

"Por lo que oí, pocos puntos de la costa norte escaparon la furia del temporal; pero su mayor violencia se dejó sentir en un pequeño pueblo llamado San Vicente, en la punta nordeste de la Provincia de Cagayán donde se dice haber habido varias víctimas de las olas del mar que invadieron la playa. Algunas de estas olas eran de 3 metros (10 pies) de altura y levantaban materialmente las casas de nipa llevándolas de un punto a otro cual si fuesen pedazos de corcho en medio de un mar alborotado. Muchas personas fueron heridas por la caída o voladura de objetos procedentes de las ruinas de edificios etc. * * *

El faro de la Isla de Palaui en Cabo Engaño fué lanzado por la fuerza de los vientos; y barotos y bancas se hallaron enterrados debajo de las ruinas de las casas. * * *

El pueblo de Aparri también tuvo su parte en el temporal inclusas ruinas de edificios, casas destechadas y caminos perjudicados. No hubo allí víctimas. La boya que marcaba el canal de Aparri fué llevada por las olas y no se había aún encontrado cuando yo salí de Aparri."

Según se ve en la trayectoria de este tifón que va incluída en la lámina IV, el vórtice no llegó a cruzar el meridiano de Aparri, sino que desde la parte nordeste de la Provincia de Cagayán empezó a recurvar al N y NNE. El Observatorio anunció este cambio de dirección en varios avisos de tifón del 28 y 29, los cuales mencionaremos luego, y en la siguiente nota del tiempo dada a 5.30 p. m. del día 29:

El tifón que se hallaba ayer mañana en los alrededores de Aparri, inclinó su trayectoria al N y pasó la noche pasada por encima o muy cerca de las Islas Batanes. Su centro demora esta tarde al E del sur de Formosa, moviéndose aparentemente al NNE.

Efectivamente, el vórtice pasó tan cerca de las Islas Batanes que hizo bajar el barómetro de Santo Domingo hasta 730.4 mm. a las 11.30 p. m. del 28, mínima más baja que la de Aparri en unos 10 mm.

En el texto inglés verán nuestros lectores reunidas en una sola tabla las observaciones hechas en ambas estaciones durante el paso de este tifón.

Desde las Islas Batanes se dirigió el tifón al NNE atravesando las Islas Loochoos durante los días 30 de Septiembre y 1 de Octubre, y llegando al Japón la madrugada del día 2. A 6 a. m. del 2 todavía aparecía como un tifón bien desarrollado, mas pronto se convirtió en una depresión de muy poca importancia, según se echa de ver por los mapas del tiempo desde 2 p. m. del 2 hasta 2 p. m. del 4.

Copiaremos aquí los avisos de tifón enviados por el Observatorio de Manila a los Observatorios de Tokio, Zikawei, Taihoku, Hongkong y Phulien:

Día 23, 7.15 p. m.: Tifón al NW de Yap, dirección desconocida.

Día 24, 3.45 p. m.: Tifón al E de las Visayas septentrionales o de la parte sudeste de Luzón, moviéndose al W.

Día 25, 11.35 a. m.: Tifón al E de las Visayas septentrionales o de la parte sudeste de Luzon, casi estacionario.

Día 26, 9.30 a. m.: Tifón al E de la parte sur de Luzón, moviéndose al NW.

Día 27, 8.50 a. m.: Tifón al E de Luzón, distancia menor de 300 millas, moviéndose al NW.

Día 27, 9.30 p. m.: Tifón cruzando la parte norte de Luzón, moviéndose al WNW o NW.

Día 28, 11.30 a. m.: Tifón en, o cerca de, Aparri, moviéndose al WNW o NW.

Día 28, 6 p. m.: Tifón en el, o cerca del, canal de Balintang, inclinándose al N.
Día 29, 9.35 a. m.: Tifón en el, o cerca del, canal de Bashi, moviéndose al N o NNE.
Día 29, 6.25 p. m.: Tifón al E del sur de Formosa, moviéndose al NNE o NE.
Día 30, 12.15 p. m.: Tifón en, o cerca de, Meiacosima, moviéndose al NNE o NE.

Del Observatorio de Hongkong recibimos estos avisos de tifón:

Día 27, 11.10 a. m.: Tifón al E de Luzón, moviéndose al WNW.
Día 28, 11 a. m.: Tifón en el N de Luzón, moviéndose al NW.
Día 29, 10.30 a. m.: Tifón cerca del canal de Bashi, moviéndose al N.

El Observatorio de Zikawei por su parte fué siguiendo también la trayectoria de este tifón con los siguientes telegramas trasmitidos a las estaciones de la costa de China:

Día 24, 10 a. m.: Tifón hacia el NW de Yap, distancia mayor de 240 millas, dirección WNW.
Día 24, 9 p. m.: Tifón lejos al E de Filipinas, dirección WNW.
Día 25, 10 a. m.: Tifón lejos al E de Filipinas, dirección NW.
Día 26, mediodía: Tifón al E de Luzón, dirección NW.
Día 27, 11 a. m.: Tifón al E de Luzón, dirección NW.
Día 28, 10 a. m.: Tifón al NW de Luzón, dirección NW.
Día 29, 8.30 a. m.: Tifón en el canal de Balintang, dirección N.
Día 29, 4.40 p. m.: Tifón en el canal de Bashi, dirección N.
Día 30, 9.15 a. m.: Tifón al E de Formosa, dirección NNE.
Día 30, 11.30 a. m.: Tifón al SW de Meiacosima, dirección NE.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[a]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Day.	Pressure (mean).	Air temperature.[b] Mean.	Maximum.	Minimum.	Underground temperature. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 p. m.	Relative humidity (mean).	Vapor pressure (mean).	Evaporation.[b] Free exposure (total).	Shelter (total).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	*Per ct.*	*mm.*	*mm.*	*mm.*
1	753.98	24.7	26.4	23.6	27	27	28.2	28	28.9	28.9	93	21.5	0.3	1.1
2	54.24	25.2	28.5	23.4	26.8	28.3	27.9	28	29.3	29.2	90.6	21.5	.7	1.1
3	54.79	24.9	28	23.6	26.9	27.5	27.9	28	29.1	29	91.6	21.5	.6	1.2
4	55.81	26.2	30.6	23.7	27.3	28	28.1	28.2	29.3	29.3	85.4	21.4	2.2	1.9
5	57.19	27.1	32.6	23.3	27.9	28.6	28.4	28.6	29.2	29.2	81.5	21.5	3.2	2.5
6	58.38	27.3	32.4	23.2	28.4	29.5	28.8	29	29.1	29.2	78.5	21	4	3.1
7	57.61	26.7	32.9	23.9	28.8	29.5	29	29.4	29	29.1	85.3	22.1	1.9	1.9
8	57.24	24.4	26	23	28.6	28.3	29.2	28.9	29	29.1	93.4	21.3	1.9	2.6
9	57.92	26.3	29.5	24	27.8	28.3	28.8	29	29	29.1	85.9	21.7	3.4	2.4
10	57.61	27.5	30.7	25.4	28.3	29.3	28.8	29	29.1	29.1	81.8	22.3	3.6	2.6
11	56.91	27.1	31.3	24.3	28.8	29.8	29.2	29.4	29	29.1	85.3	22.7	2.4	2
12	56.96	27.3	32.2	24.6	29	30.2	29.5	29.5	29.1	29.2	82.9	22.3	3.5	2.5
13	56.15	27.3	31.1	24.1	29.3	29.4	29.7	29.9	29.2	29.2	83.1	22.4	3.2	2.5
14	53.87	27.2	30.6	24.8	29.4	30.2	29.9	29.9	29.1	29.1	86.5	23.2	2.4	1.9
15	51.38	27.5	30	25	29.3	29.8	29.8	29.9	29.1	29.2	87.1	23.7	2.9	2.3
16	52.33	27.9	31.2	26.4	29.1	29.7	29.7	29.8	29.1	29.1	84.8	23.6	2.5	2.3
17	55.03	26.8	31.2	24.6	29	29.5	29.6	29.7	29.1	29.1	88.2	23.1	1.3	1.4
18	55.75	27.2	30.8	24.1	28.7	29.8	29.5	29.7	29.1	29	85.7	22.8	3	2.1
19	55.04	27.6	31.9	24.6	29.3	30.3	29.7	29.9	29.2	29.1	81.8	22.4	3.4	2.5
20	55.55	27.5	31.6	24	29.5	30.7	29.8	30.1	29.3	29.2	80.8	21.9	4.4	3.2
21	56.92	28.3	32	26	29.5	30.7	30	30.2	29.3	29.2	75.8	21.6	4.8	3.6
22	58.62	27.8	32	23.3	29.6	30.8	30.4	30.4	29.3	29.2	76.3	21	4.5	3.3
23	59.66	27	30.7	23.7	29.8	30.8	30.2	30.6	29.3	29.2	81.3	21.4	2.7	2.3
24	59.03	26	30.7	23.5	29.4	30.1	30.1	30.2	29.3	29.1	87.2	21.6	1.7	1.7
25	58.23	26.2	31.5	23.7	29.1	29.9	30	30	29.3	29	82.8	20.7	2.2	2
26	57.02	26.6	32.3	22.9	29.2	30.3	30	30	29.3	29.1	82.8	21.3	3.1	2.3
27	55.11	26.4	30.7	23.7	29.5	29.8	30	30.1	29.3	29.1	89.8	22.9	2.7	2.6
28	55.97	27.6	31.2	25.7	29.2	30.2	30	30	29.4	29.2	85.5	23.4	3	2.2
29	56.82	26.7	29.7	24.9	29.3	29.6	29.8	30	29.3	28.9	86.9	22.6	1.6	2.6
30	57.25	25.8	27.8	24.2	28.8	28.6	29.9	29.7	29.5	29	87.3	21.5	0	1.1
Mean	756.28	26.7	30.6	24.2	28.8	29.5	29.4	29.5	29.2	29.1	85	22.1	2.6	2.2
Total													77.1	66.8
Departure from normal	—1.16	—0.2	0	+0.6							—0.6	—0.3		

Day.	Wind. Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Sunshine.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	*Km.*		*0–10.*			*h.* *m.*	*mm.*	
1	SW quad.	269	22	WSW	10		N., Cu.-N. W	0 00	38.7	● a. p.
2	SW quad.	296	23	SW	9.7	Ci.-S., A.-Cu.	Cu., N. W	0 20	9.6	d° a. ● p.
3	S quad.	222	16.5	S by W	10		Cu.-N. W	0 00	8.7	●° a. p.
4	S quad.	221.5	22	S by W	8.9	A.-Cu. WSW	Cu., N.-cf. SW	2 50	2	●° a.
5	SW quad.	147.5	24	SW by W	8.2	A.-Cu.	Cu. SW	4 30		⌐4° p.
6	SW quad.	152.5	15.5	NNW, NNE	4.4	Ci. ENE	Cu. SW	9 00		d° ⌐4° ↙ p.
7	W quad.	227	20	W	8.4	Ci.-S.	cu., Cu.-N. N, NNE	4 05	38.9	⌐4² ●² ↙° p.
8	NNW	241.5	27.5	NNW	10	Ci.-S.	N. NE, N	0 00	34.5	● a. p.
9	SW quad.	314	30	SW by W	9.7	Ci.-S.	Cu.-N. SW	0 40	.5	d° a. ↙ p.
10	SW quad.	390	26.5	WSW	6.3	Ci.	Cu. W	8 20		↙ p.
11	SW quad.	301.5	29	WSW	8.6	Ci.-S. W	cu., Cu.-N. SW, W	2 40		d° a. ↙ p.
12	SW quad.	277	24	WSW	8.2	A.-Cu. NE	Cu.-N. WNW	5 00	.8	d a. d° p.
13	SW quad.	264	27	SW	8.1	A.-Cu. W	Cu.-N. WSW	4 30		
14	SW quad.	230	20	SW	9.8	Ci.-S.	Cu.-N. W	2 10	13.3	● a.
15	W quad.	449.5	33	SW by W	9.9	Ci.-S.	Cu.-N. W	0 00		d° p.
16	SW quad.	629	39.5	WSW	9.4	Ci.-S.	S.-Cu. WSW	1 05	2.6	●° a. ● p.
17	SW quad.	405	33.5	SW by W	9.5	A.-Cu.	Cu.-N. WSW	0 45	9	↙° a. ● a. p.
18	SW quad.	341.5	26	SW by W	6.3	Ci.-S. E quad.	Cu. WSW	6 55	5.6	● a.
19	SW quad.	241	23	SW by W	8.4	Ci.-S. E	Cu. WNW	4 45		
20	WSW	308	27	WSW	6.5	Ci.-S. NE, SE	Cu. NW	7 35		∞ p.
21	SW quad.	109.5	29	WSW	4.3	Ci.	Cu. W	8 45		
22	SW quad.	194.5	25	SW by W	5.1	Ci.-S., Ci. E	Cu.	8 45		○ a. p. ↙° p.
23	SW quad.	180	20	E	7	Ci.-S. E	Cu. WNW, W	5 45	26.2	⌐4 ●² p.
24	Variable	76	10	W	9.9	Ci.-S.	Cu.-N. E	0 50	.3	d° a. ●° p.
25	NW quad.	175.5	16	WNW	9.2	A.-Cu. NE	Cu. E	2 30	.8	● ⌐4° p.
26	SW quad.	160	15	WSW	6.2	Ci., Ci.-S. NE	Cu. ENE	6 55		⌐4 p.
27	SW quad.	606	48	WSW	9.9	Ci.-S.	Cu.-N. WSW	1 25	4.1	p° ↙° a. p. ● ⊤° p.
28	SW quad.	722	50	SW by W	9	A.-Cu. NW by W	Cu. W	2 55		↙° d° a.
29	SW quad.	625	39	SW by W	10	Ci.-S.	Cu.-N. SW	0 20	12.8	p ● a. ↙° d p.
30	W quad.	530.5	38	WSW	10		N. WSW	0 00	19	↙° a. ● a. p.
Mean		310.2	26.6		8.4			3 27		
Total								103 20	227.4	
Departure from normal		+40.4			+0.7			—33 35	—132.2	

[a] All the mean values given in this table are deduced from hourly observations.
[b] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[a]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 26.2 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	755.46	28.4	33.4	26.6	74.5	SW	1.3	7.8	Ci.-S.	Cu.	-------	
2	56.78	27.8	33.6	24.4	74.7	S	1.2	7.8	Ci.-S.	Cu. SW, SE	-------	
3	57.04	28.6	33.9	25.5	72	S	1.7	6.8	Ci.-S.	Cu.	-------	
4	57.62	28.2	32.8	24	76.3	SSE, S	1	3	A.-Cu. E	Cu.	-------	
5	57.74	27.4	33.9	24.7	82	S quad.	.5	6.7	Ci.-S.	Cu.	0.5	
6	58.11	25.4	29.4	23.2	91.5	S	.3	9.7	Ci.-S.	Cu.	74.7	d^2 a. ●^{2} p.
7	56.96	24.3	26.9	22.9	91	NE	.2	10	Ci.-S.	N. N	12.5	●^{2} a. ●° p.
8	57.80	26.8	30.8	22.8	83	S	1.2	4.7	Ci.-S., Ci.	Cu. SW, SSW	-------	
9	58.88	27.8	32.8	24.6	77.2	S	1.2	3	Ci. SSE	Cu., Fr.-Cu. SW	-------	
10	58.16	28	33.7	23.4?	78.3	S	.8	2.5	Ci.	Cu. SSW	-------	
11	57.63	27	32.7	23.4	81.2	SSW, SW	1	4.7	Ci.	Cu. SW quad.	-------	
12	57.66	27.1	32.6	25	81.3	S	.5	6.3	Ci.-S.	Cu. SSW	8.9	●° ⊤^{2} p.
13	57.16	27.8	31.8	25.2	78	SW	.7	8.7	Ci.-S.	Cu. SW	-------	
14	55.44	27.3	31.7	24.9	79.8	SW	2.5	7.2	Ci.-S.	Cu., Fr.-N. W	-------	
15	54.31	26.4	29.5	23.5	85.5	SW	2.7	9.8	Ci.-S.	N., Fr.-N. SW	59.5	d° a. ●^{2} p.
16	56.32	26	29.9	23.8	85.3	SSW	2.7	9.8	Ci.-S.	Fr.-Cu. SW	14.7	●^{2} a.
17	57.52	27	30.7	23	83.5	S	2	9.5	Ci.-S.	Cu., Fr.-N. SSW	-------	d° a.
18	56.97	26.9	32.4	24.5	84.2	SSW	.7	8	Ci.-S.	Cu., Fr.-N. SW	6.1	●° d^2 ◡^{2} ⊽^{2} p.
19	56.02	27.2	31.2	25.1	82.7	S quad.	.7	8	Ci.-S.	Cu. SSW, SW	6.6	●° a.
20	56.92	26.9	30.7	24.4	80.5	S quad.	1.3	9.3	Ci.-S.	Cu. SW	-------	d^2 a. ◡° p.
21	57.99	27.5	32.7	23.8	77.7	S	.8	6.2	Ci.-S.	Cu., Fr.-Cu. SW	-------	
22	59.34	26.5	31.7	23.2	86.8	SSW, S	.3	7.8	Ci.-S.	Cu. SW	-------	⊽^{2} p.
23	59.39	26.2	33.2	23.3	87.7	SSW, S	.8	7.3	Ci.-S.	Cu. SW, SSW	5.1	●° ⌐◪^{2} ⊽^{2} p.
24	58.56	25.8	32.4	22.9	88.5	S, W	.3	8.5	Ci.-S.	Cu.	32.3	d° ●^{2} ⌐◪^{2} p.
25	57.79	25.5	31.4	22.9	90.7	SSE	.2	10	Ci.-S.	Fr.-N. S	6.1	●° a. p.
26	57	27.6	33.2	24.2	80.7	SSW, SW	.3	6.7	Ci.-S.	Cu., Fr.-Cu. SW	-------	
27	57.31	28.2	32.7	25	75.8	S	2	3.5	Ci.-S.	Cu. SSW	-------	◡^{2} p.
28	58.42	28.1	32.7	24.5	76.7	SW	.8	2.3	Ci.	Cu., Fr.-Cu. SW	-------	
29	58.23	27.8	33.7	24	77.3	SSW	1	1.8	Ci.	Cu.	-------	
30	57.79	28.4	33.6	24	76.8	S	1	1.5	Ci.	Cu., Fr.-Cu. S	-------	
Mean	757.41	27.1	32.1	24.1	81.4		1.1	6.6			-------	
Total	-------	-------	-------	-------	-------		-------	-------	-------	-------	227	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	754.83	29.1	33	27.7	64.5	SW quad.	1.7	7.7	Ci.-S.	Cu., Cu.-N.	3	◡ a. ◯° p.
2	56.04	28.4	30.5	24.5	68.8	SW quad.	2	8.8	Ci.-S.	Cu.-N. WSW	-------	● a.
3	56.90	29	34.4	25.3	65.3	SW	1	5.7	Ci.-S.	S.-Cu., Cu.	-------	
4	57.55	28	34	24.2	75.5	WSW	.2	3.8	A.-Cu.	S.-Cu., Cu.	-------	
5	57.66	26.7	31.5	23.4	83.2	Calm	0	7.5	Ci.	S.-Cu.	2.8	d° p.
6	57.73	25	27.1	23.8	92.8	Variable	1.3	10	Ci.-S.	N. N by E	34.6	●° a. ● d^2 p.
7	56.35	24.4	25.9	22.6	91.5	Variable	.7	8.7	-------	Cu.-N. WSW	22	● a. p.
8	57.59	26.8	31	22.7	79.2	SW quad.	1.3	.8	A.-Cu.	Cu.	-------	
9	58.37	28.3	32.1	25.1	72	SW	1	.5	Ci.-S.	Cu.	-------	◟° p.
10	57.81	28.4	32	26.6	74.8	SW quad.	2.3	3.7	Ci.-S.	Cu. WSW	-------	◯ p.
11	56.97	28.7	32.2	26.7	72.7	SW quad.	1.5	2.5	Ci.-S., Ci.	Cu.-N. WSW	4.1	
12	57.07	28.2	31.5	25.5	77.5	SW quad.	2.2	6.5	Ci.-S.	Cu., N. WSW	.8	● a. ◯ ●° p.
13	56.14	28.5	31.4	27.5	71.8	SW quad.	3.2	9.3	Ci.-S.	Cu.-N. W by S	-------	◯ p.
14	54.46	27.8	29.9	26.4	77.2	SW quad.	3	9.8	Ci.-S.	Cu.-N. WSW	2.3	d a. p. ☾° ●° p.
15	53.58	28.2	31.9	25.6	74	SW	2.5	8.2	Ci.-S.	Cu.-N. WSW	8.1	●° a.
16	55.84	27.8	30.5	24.4	75.5	SW quad.	1.7	8	Ci.-S.	Cu.-N. SW	1.1	●° a. ◟° p.
17	56.90	28.5	32.6	26	70.7	SW quad.	1.8	5.7	Ci.-S.	Cu.	-------	●° a.
18	56.30	28.4	32.5	27	73.5	SW	2.2	3.7	Ci.-S.	Cu. SW, SW by W	-------	⊽ p.
19	55.36	28.6	31.6	26.6	72.7	SW	2.8	8.3	Ci.-S.	Cu.-N. WSW, SW	-------	d° a. p. ◯ ◟° p.
20	56.25	28.2	32.6	26.6	74.5	SW	1.5	7.5	Ci.-S., A.-Cu.	Cu. SW	-------	⊽ p.
21	57.68	27.6	31	24.5	77.8	SW	1.2	5.7	Ci.	S.-Cu.	-------	
22	58.12	27	32.4	24	84.2	W, WSW	.5	5.3	Ci.-S., A.-Cu.	S.-Cu.	-------	⊽ ◡° p.
23	59.06	26.9	32.7	23.6	82.5	SW, WNW	.5	4.2	A.-Cu.	Cu.-N. SW by W	7.9	● ⌐◪ p.
24	58.04	26.1	30.5	23	87.8	WSW	.5	6.3	Ci.-S.	Cu.-N.	-------	◡° p.
25	57.22	27.3	31.6	23.3	82	SW quad.	.7	5.3	Ci.-S.	Cu.-N.	2.3	◡° p.
26	56.47	27.1	30.2	25	82.7	SW quad.	1.3	8.7	Ci.-S.	Cu.-N. WSW	2.3	● d° a. ◯ ☽ p.
27	57.18	28.2	33.6	24.9?	76.2	SW quad.	.8	4	Ci.-S.	Cu.-N. SW	24.4	● ⌐◪ p.
28	58.19	27.3	32.4	23.9	80.2	SW quad.	.7	4.3	Ci.-S.	Cu.	-------	
29	58.03	27.4	32.1	24	80.2	SW quad.	.7	2	-------	Cu.-N. SW	-------	
30	57.58	27.6	32.5	23.3	78	SW, W	.5	1.8	Ci.	Cu.	22.1	d p.
Mean	756.94	27.6	31.6	24.9	77.3		1.4	5.8			-------	
Total	-------	-------	-------	-------	-------		-------	-------	-------	-------	137.8	

[a] All the mean values given in these tables are deduced from six daily observations.

Meteorological data for first and second class stations—Continued.

CEBU.

[ϕ=10° 18′ N: λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Wind. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	754.91	28.7	31.5	26.5	69	SW	1.2	8	Ci.-S., A.-Cu.	Cu., S.-Cu. W	-------	
2	55.96	28	31.9	24.9	69.7	SW quad.	1.2	7	A.-Cu.	Cu., S.-Cu. W	-------	☋ a. ↘° p.
3	56.71	28	31.2	26	74	SW	.5	6.2	Ci.-S.	Cu. SW, WSW	0.8	●° a. p. ↘ p.
4	57.51	28.4	32.5	24.5	68.7	SW quad.	.7	4.2	Ci.	Cu. WSW	-------	
5	57.69	28	34	24.4	72.5	SSW	.2	6.7	Ci.-S., A.-Cu.	Cu., Cu.-N. WSW	.5	○ a. ●° p.
6	57.82	26.4	31	23.8	82.8	SW, S	.3	8.8	A.-Cu.	Cu.-N. NW quad.	28.3	☊ a. ● p.
7	56.38	24.4	27.5	22.9	89	SW quad.	.7	9.8	-------	Cu.-N. Variable.	20.1	● a. p. d p.
8	57.30	25.9	30	23	83.8	SW	.7	6.2	Ci.-S.	Cu.-N. WSW	1.3	d a. ● p.
9	58.37	27.2	31.2	23.5	77.5	SW	.5	3	Ci.	Cu. SW	-------	☊ a.
10	57.81	27.6	31.9	24.7	74.2	SW	.5	3.5	Ci.	Cu. W	-------	☊ a.
11	57.35	27.1	30.7	23.4	77.3	SW	.7	5.2	Ci.-S.	Cu., S.-Cu. W	-------	☊ a.
12	57.08	28.2	32.4	24.7	71.5	SW quad.	1.2	5.5	Ci.-S.	Cu. W	-------	☊ a. ○° p.
13	56.44	28.4	32.5	25.3	69	SW	1	7.7	Ci.-S.	Cu. W	-------	☊ a.
14	54.50	28.3	33.2	26	69.7	SW	1	8.2	Ci.-S.	Cu. W	.5	☊ a. ●° p.
15	53.28	27.3	30	25.3	76.2	SW	1.7	7.3	Ci.-S.	Cu.-N. WSW	15.3	● p.
16	55.35	27	29.4	24.5	76.8	SW	1.5	8.5	-------	Cu.-N. SW	.3	●° a. d a. p.
17	56.73	27.9	30.2	25.6	74.8	SW quad.	1.2	6.8	Ci.-S.	Cu. W quad.	1.5	☊ a. ● p.
18	56.41	28.1	32.4	25	72.3	SW quad.	1.2	5.7	Ci.-S.	Cu. W	-------	☊ a. ☋ p.
19	55.47	26.8	30	24.5	81.2	SW	1	6.8	Ci.-S.	Cu., Cu.-N. W	16	○ a. ● ◜◝ p.
20	56.41	27	30	24.7	74.5	SW quad.	1	7.2	Ci.-S.	Cu., Cu.-N. SW	-------	☊ a. ◜◝ ☋ p.
21	57.54	27.2	30.2	24.3	76.2	SW	.5	6.5	A.-Cu.	cu.,s.-cu.sw, wsw	-------	☊ a. ☋ p.
22	58.97	27.2	31	23.5	77.8	SW quad.	.5	6.3	Ci.-S.	Cu. SW	-------	☊ a. ◜◝ ☋ p.
23	59.22	26.5	32.6	23.9	82.7	S	.3	6.2	A.-Cu. N	Cu., Cu.-N. W	7.9	☊ a. ● ◜◝ ☋ p.
24	58.08	26	31.5	23.5	86.2	S, W	.3	7.7	Ci., Ci.-S.	Cu.-N. N	9.9	☊ a. ☾ ● ◜◝ p.
25	57.35	27.2	31.5	23.7	81.3	SW, S	.3	6.5	Ci., Ci.-S.	Cu., Cu.-N. N	-------	☊² a. ↘ a. p. ◜◝ p.
26	56.51	27.9	33	23.7	76.7	SW	.7	6.5	Ci.	Cu. W, WbyN	-------	☊² a. ↘ p.
27	56.78	28.4	31.4	25.5	73.3	SW	1.3	5	Ci.	Cu. SW	-------	☾ a. ↘° p.
28	58.03	28.4	31.4	25.7	73.8	SW	.8	3.5	Ci.	Cu. SW	-------	☋ a.
29	57.80	28.6	33.2	25.1	68.7	SW	1	4.7	A.-Cu.	Cu. W	-------	☊ a.
30	57.58	28.1	31.8	24.6	72.7	SW, SSW	.7	2.8	A.-Cu.	Cu. W	-------	☊ a. ↘° p.
Mean	756.91	27.5	31.4	24.6	75.8	-------	.8	6.3	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	102.4	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6.5 meters; gravity correction not applied, —1.84 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	754.79	27.2	29.7	22.7	85.3	SW	2.3	10	Ci.-S.	Cu.-N.	38.2	● a. p. ┬ p.
2	55.98	26.8	29.9	22.9	83.8	SW	2.2	9.8	Ci.-S.	Cu.-N.	36.1	● a. p. ┬ ↘ p.
3	56.34	27.2	30	23.6	83.2	SW	2.3	8.7	Ci.-S.	Cu.-N.	34.3	● a. p. d ┬ ↘ p.
4	57.30	27.2	30.1	22.2	80.8	SW	1.7	7.5	Ci.	Cu. SW	-------	● a. ●° ↘ p.
5	57.65	25.9	30.1	23.9	89.7	SW	.7	8.8	Ci.-S.	Cu.	13.4	┬ ◜◝ a. ● p.
6	58	25.6	31.5	23.3	86.3	Variable	.7	8.7	A.-Cu. ENE	Cu.	45.2	┬ ● d p.
7	56.86	24.3	25.1	21.4	93.7	Variable	.7	10	Ci.-S.	Cu.-N.	40.4	● a. p.
8	56.79	26.7	29.8	23.2	80.7	SW	1.7	6.2	Ci.	Cu.	-------	● a. ◠ p.
9	58.48	27.4	30	24.9	78.2	SW	1.7	3.8	Ci.	Cu.	-------	
10	57.82	28	30.7	26.4	74	SW	1.8	2	Ci.	Cu.	-------	
11	57.31	27.4	29.8	25.1	79.3	SW	1.7	5.8	Ci.-S.	Cu.	-------	↘ p.
12	57.17	28.1	30.6	25.2	76.5	SW	1.8	6.2	Ci., Ci.-S.	Cu.	-------	d a. p.
13	56.65	27.5	29.9	24.1	77.5	SW	2.3	9	A.-Cu. W	Cu.	8.8	●° a. ● p.
14	54.67	27.8	30.2	25.3	77.7	SW	2.8	9	Ci.-S.	Cu.	1.3	● a. d p.
15	53.22	27.2	29.7	24.6	83.7	SW	3	10	Ci.-S.	Cu.-N.	12.7	● a. p. ┬ p.
16	54.96	26.1	29	22.4	87	SW	2.7	10	Ci.-S.	Cu. SW	43.5	● a. p. ●° ┬ p.
17	56.57	27.8	29.8	25.6	80.7	SW	2.7	9.7	Ci.-S.	Cu.-N.	.5	● a. d p.
18	56.38	27.4	30	24	78.7	SW	2.3	8.7	Ci.-S.	Cu.	-------	↘ p.
19	55.44	27.6	29.9	26	78.2	SW	2.3	5.8	Ci.-S.	Cu.	-------	●° ↘ p.
20	56.43	25.8	27.8	23.5	86.2	SW	1.7	9	Ci.-S.	Cu.	13.1	d ● p.
21	57.57	26.6	28.5	24.5	83	SW	1.7	9.2	Ci.-S.	Cu.-N.	18.5	d ● a. p.
22	59.07	27.6	29.9	25.6	80.7	SW	1.3	7.5	Ci.	Cu.	-------	d ●° a.
23	59.16	27	31	23.9	82.3	SW	.8	7	Ci.-S., Ci.	Cu.-N., Cu.	4.8	┬ ● p.
24	58.42	25.9	30.1	23.6	87.2	Variable	.5	9.7	Ci.-S.	Cu.	1.8	●° ┬ ● p.
25	57.60	25.9	31.2	23.5	87.5	Variable	.5	8.8	A.-Cu. NE	Cu.-N., Cu.	10.2	┬ ● d p.
26	56.85	26.8	30.1	24.1	82	SW	1.2	6.7	Ci.	Cu.	-------	↘ p.
27	56.86	26.7	29.8	24.8	84.7	SW	2	10	Ci.-S.	Cu.-N.	17.3	● a. p.
28	58.04	26.5	28.5	24.8	84	SW	2.2	8.3	Ci.-S.	Fr.-N. SW	23.9	● a. d ●° p.
29	57.96	27.4	29.8	23.1	79.8	SW	2	9.3	Ci.-S.	Cu.	-------	● a.
30	57.76	27.5	30	26	80.7	SW	1.7	7.8	Ci.-S.	Cu. SW	5	●° a. ● a. p. ↘ p.
Mean	756.94	26.9	29.8	24.1	82.4	-------	1.8	8.1	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	369	

Meteorological data for first and second class stations—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.		Clouds. Prevailing form and its direction. Lower.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	755.16	28.9	31.1	25.8	72.7	SW	2	10	Ci.-S.		Cu.-N.	SWbyW	-------	p a.
2	56.19	28.1	30.4	25	76.5	S quad.	1.7	10	Ci.-S.		Cu.-N.	WSW	-------	
3	56.99	28.1	30.6	24.6	77.8	SE	1.2	9	Ci.-S.		Cu.-N.	SSW	2	⌐◪ p p.
4	57.83	28.1	31.8	24.1	77.5	SE	.8	7.7	A.-Cu.	WSW, E	Cu.	S	-------	⊤ p.
5	57.94	27.1	30.7	22.7	77.3	E quad.	.3	8.5	Ci.	NE	S.-Cu.		.8	
6	58.10	25.2	30	23	87.2	NE quad.	.3	9.3	A.-Cu.	ENE	N.		65.2	⊤ a. d a. p. ● p.
7	56.17	23.7	26	22	95.5	E quad.	.8	10	Ci.-S.		N.	WNW	92	● a. ●^{2} p.
8	57.56	26.3	29.2	22.1	81.8	SE quad.	1.3	7.8	A.-Cu.	SW	Cu.-N.	S	-------	p d a. ☇ p.
9	58.57	27.6	30.9	23.5	78	SE quad.	1	4	A.-Cu.	WNW	Cu.-N.	W	-------	
10	58.12	26	30.8	22	82.7	S, NE	.3	5.2	Ci.-S.		Cu.-N.	W	-------	
11	57.44	26.3	30.2	22	82.7	S quad.	.5	6.3	Ci.-S.	E	Cu.-N.	W, WSW	-------	☇ p.
12	57.27	27.4	32	23.8	79.7	SW quad.	.3	7.3	Ci.-S.	N	Cu.-N.	W	-------	☇ a.
13	56.54	27.9	31.8	24.1	75.7	SW	1.2	9.3	Ci.-S.		Cu.-N.	W	-------	
14	54.64	27.8	31.3	24.5	77	SW	1.5	9.5	Ci.-S.		Cu.-N.	WSW	-------	
15	53.53	27.9	29.6	25.4	79.3	SW	3.3	10	Ci.-S.		Cu.-N.	WSW	2.6	p a. p. ⊤ ☋ p.
16	55.75	27.7	29.2	25.5	78.8	SW quad.	3.2	9.5	Ci.-S.		Cu.-N.	SSW	-------	p a. ☋ p.
17	56.96	28.2	30.4	26.8	77.3	S	2.2	7.8	Ci.-S.		Cu.-N.	W	-------	☋ p.
18	56.48	28	31.1	25.3	78.3	S quad.	1	6.3	Ci.-S.		Cu.-N.	W	1.6	p p.
19	55.68	27.1	29.6	25	84.3	S	1	8	Ci.-S.		Cu.-N.	SSW, W	2.3	p d ⊤° p.
20	56.46	28	30.6	24.4	76.2	S quad.	2	7.7	A.-Cu.		Cu.-N.	SW	-------	☋ p.
21	57.82	27.9	30.7	24.3	77.2	SE quad.	.7	7.3	A.-Cu.		Cu.-N.	SW	-------	
22	59.26	27.4	30.9	24	80.5	SE, S	.5	7.3	Ci.-S.		Cu.-N.		-------	☇ ☋ ☋° p.
23	59.36	27	32.3	23.4	82.3	N, S	.3	7.2	Ci.	NNE	Cu.-N.	NW	1.1	☇ p a. p. ⊤ p.
24	58.39	25.9	30.7	22.8	89.5	N quad.	.2	8.3	Ci.	N	Cu.-N.	NE	19.9	☇ d ⊤ a. ● ☋^{2} p.
25	57.67	26	30.6	22.3	88.7	Variable	.3	7.8	Ci.-S.	NNE	Cu.-N.		23.6	p a. ⌐◪ d ☇ ☋ p.
26	56.80	26.7	30.6	23.5	86.5	Variable	.5	9.7	Ci.-S.		Cu.-N.	W, WNW	11	☋ p d a. ⊤^{2} ● ☇ p.
27	57.07	28	30.8	23.2	83.7	SE quad.	1.3	9.5	Ci.-S.		Cu.-N.	SW quad.	-------	p p.
28	58.30	28.7	31.1	24.8	76.7	SSE, SE	1.5	6	A.-Cu.	SW	Cu., Cu.-N.	S	-------	☇ p.
29	58.07	27.6	31.1	24	81.7	S quad.	.7	3.3	A.-Cu.	W	Cu.	SW	-------	☋^{2} p.
30	57.78	28.5	30.9	25.2	79.7	SE quad.	1	3.5	A.-Cu.	NW	Cu.	SSW	-------	
Mean	757.13	27.3	30.6	24	80.8		1.1	7.8					-------	
Total													222.1	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 3.4 meters; gravity correction not applied, —1.82 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	754.41	28.9	33	25.4	70.3	WSW	1.2	8	Ci.	ENE	cu.-N., Cu.	W quad.	2	● p.
2	55.62	28.8	32.5	25.5	67	SSE	1	8	Ci.-S.	ENE	Cu.-N., Cu.	W	-------	
3	56.48	28.9	34	25.5	66.3	W quad.	.8	6.7	Ci.-S.	NE	Cu.	SW	-------	☋^{2} a.
4	57.47	29	33.4	25.5	72.3	SE quad.	.8	7.8	Ci.-S., Ci.	NE	Cu.	SW	-------	
5	57.75	27.6	31	25.5	81.5	SE	.3	8.3	Ci.		Cu.-N.	SW	3.8	☋^{2} a.
6	57.86	25.4	30	23.3	90	NW quad.	1.2	9.2	Ci.		cu.-N., N.	NW, NE	116	●° a. ⊤ a. p. ●^{2} p.
7	55.97	24.4	26	23	92.7	NW quad.	1.7	10			N.	N	30.8	●^{2} a. ● p.
8	57.18	27.2	32.3	22.8	79	SSE, S	.7	5.2	Ci.-S.	NW	Cu.	SSW, SW	-------	
9	58.12	27.6	33	23.4	79.5	Variable	.5	3.3	Ci.		Cu.	SW	-------	Ω^2 a.
10	57.74	27.5	31	24	78	W quad.	1	4.8	Ci.	NE	Cu.	WNW	-------	Ω° a. ☽^{2} a. p.
11	56.92	27.9	33	23.3	74	W quad.	.7	5.5	Ci.-S.	NE	Cu.	WNW	-------	Ω^2 a.
12	56.74	28.8	33.5	26	71	WNW	2.2	7	Ci.	NE	Cu.	W	-------	☽^{2} ☋° p.
13	55.83	28.8	33.3	26.4	72	W quad.	1.2	7.2	Ci.	NE, ENE	Cu.	W	-------	☽^{2} a. p.
14	53.84	28.4	32	25.5	75.5	W	2	7.8	Ci.	NNE	Cu.-N., Cu.	W	-------	☽^{2} a. p.
15	52.62	28.7	31.5	26.2	68	SW	1.7	7.5	Ci.	NE	Cu.-N.	W	.8	☽^{2} a.
16	54.78	27.6	30.3	24.7	74.7	SW quad.	1.2	8.2	Ci.	N	Cu.-N.	SW	-------	☽^{2} ●° ☋° a. d^2 p.
17	56.32	28.1	32.5	24.5	74.2	SW quad.	.5	6.2	Variable.	NE	Cu.	WSW	-------	☾ Ω^2 p.
18	55.91	28.5	34	24.8	75.2	WNW	1	4.8	Ci.	NE	Cu.	W	-------	Ω a. ☽^{2} ☋^{2} p.
19	55.07	27.8	31.3	24.6	81	Variable	.2	7.2	Ci.		Cu.-N.	WSW, W	-------	☽^{2} ☋^{2} p.
20	55.84	27.8	32.6	24.9	74.7	SW	1	6.8	Ci.	NE	Cu.	WSW	.5	●° ⊤ ☽^{2} p.
21	57.37	27.9	32.9	24.8	79.2	Variable	.5	7.5	A.-Cu.	NE	Cu.-N.	SW	5.3	● p.
22	58.86	28.1	33	24.6	78.8	Variable	.7	6.8	Ci.	NE	Cu.	SWbyW	-------	☽^{2} a. p. ☇ p.
23	59.15	27.1	32.9	24.5	81.5	WNW	.5	5.7	Ci.-S.	NE	Cu.-N.	NW	-------	Ω^2 a.
24	58.21	26.9	32.3	23.7	84.8	N quad.	.7	6.8	Ci.	E	Cu.	NW, N	-------	Ω^2 a. ☽^{2} ☋^{2} p.
25	57.27	28.1	34.2	24.6	77.7	NW quad.	.7	7.5	Ci.	NE, ENE	Cu.	NW, WNW	-------	Ω° a. ☇ ☽^{2} ☋° p.
26	56.12	27.6	31.2	24	77.8	WNW	1.7	8.5	Ci.	ENE	Cu.	W	5.6	☽^{2} a. ● a. p. ⌐◪ p.
27	56.42	27.6	32.2	23.5	79	SE	.2	8.2	Ci.	ESE	Cu.	SW	-------	● a. ☽^{2} p.
28	57.67	29.2	35.2	24.7	70	S	.8	6.3	Ci.	E	Cu.	SW	-------	☽^{2} a. ☋^{2} a. p.
29	57.56	27.9	34.8	24.4	78.8	ESE	.5	4.3	Ci.		Cu.	WSW	3.3	● p.
30	57.40	28.4	33.2	24.4	78.8	W, ESE	.7	5.3	A.-Cu., Ci.		Cu.	SW	-------	☋° a.
Mean	756.62	27.9	32.4	24.6	76.8		.9	6.9					-------	
Total													168.1	

Meteorological data for first and second class stations—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6.6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	754.55	26.7	30.3	23.6	83	SW, W	0.5	9.5	Ci.-S.	Fr.-N. W	1.5	☿° ☋° a. ●° a. p. ↘
2	55.32	25.8	30.9	23.1	90.5	S	.2	9.2	Ci.-S.	Fr.-N. W	1.3	☋° a. ●° a. p. ↘ p.
3	55.98	28	34	23.3	78.5	SW	1	7.5	Ci.-S.	N., Cu. W	-------	↘ p.
4	56.99	27.3	32.5	24.8	82.3	S	.8	7.8	Ci.-S.	N. SW	-------	↘ d° a. ☿ ↘ p.
5	57.40	25.8	32.4	23	91	SW, SE	.3	7.7	Ci.-S.	N. SW	19	☋° ↙° a. ● ☐◹ p.
6	57.99	25.9	31.7	22.8	89.5	NW	.5	8.3	Ci.-S.	N.	66.4	d° a. ● ☐◹ ↘ p.
7	57.11	23.8	27.3	22.5	94.8	W quad.	.8	9.7	Ci.-S.	N. NW	115.4	● a. ●² p.
8	56.43	25.8	31.2	22.5	89.2	SW quad.	1	9	Ci.-S. SW	N. NW, SW	-------	●² a. ◠ d° p.
9	58.38	27	32.2	23.4	83.8	SW, N	.3	5.5	Ci.	Cu., N. SW	-------	♌ a. d° ☿° ↘ p.
10	57.73	27	32	23	82	N	.5	4.7	Ci., Ci.-S.	Cu. SW	-------	↘° p.
11	56.98	27.4	33.1	23.7	83.3	SSW	.2	5	Ci.-S.	Cu., N. SW	-------	⊕ ◯ a. p. ☐◹ p.
12	56.96	27.1	32.9	24.6	82.8	W	.7	8.7	Ci.-S., Ci.	Cu. SW	-------	↘ a. d° a. p.
13	56.34	27.4	32.7	23.7	81.2	W	.2	9	Ci.-S.	N. SW	.5	●° a.
14	54.31	26.9	31.5	24.5	84.8	SW	.5	9.3	Ci.-S.	N. W	7.9	● p.
15	52.51	27	32.5	23.5	85.5	SW	.8	9.5	Ci.-S.	N. SW, W	2.3	⊕ ◯ a. ●° a. p.
16	54.19	26.2	30.8	24	89.2	SW	.5	9.8	Ci.-S.	N. SW, S	4.9	d² a. ●° p.
17	55.92	26.8	31.5	23.9	89.5	SW	.7	9.5	Ci.-S.	N. SW, S	16	●° a. ● p.
18	55.92	27	31.9	24.2	85	N, NW	.3	5.8	Ci.-S.	N. SW	-------	☿° ↘ ☋° p.
19	55.19	27	31.8	23.6	86.5	ESE	.2	6.7	Ci.-S.	Cu., N. SW, E	4.1	⊕ ◯ a. ☿° ● ↘ p.
20	56.08	25.4	31.4	23.5	91.7	SW, SSE	.3	7.2	Ci.-S.	Fr.-N. S	12.7	● ☿° a. ☋ p.
21	57.12	26.2	31	23.5	89	S, SW	.3	6.7	Ci., Ci.-S.	Cu., N. S	.3	☿° ●° ☋ ☋ p.
22	58.96	27.1	32.4	23.4	86	SW	.5	6.8	Ci.-S.	Cu., N. SW, SE	-------	☿° p.
23	59.33	27.2	31.9	24.2	85.8	N, NNW	.3	7.3	Ci.-S.	Cu. SW	-------	
24	58.42	25.3	29.8	23.7	92	Calm	0	8.5	Ci.-S.	N. N	1.3	☿° ●° a. d° ↘ ☋ p.
25	57.60	26.7	31.2	23.5	88.5	NW, N	.3	7.8	Ci.-S.	Cu.-N., N.-cf. N	34.5	☋ ☋ ● p.
26	56.79	26.7	31.9	23.4	87	W	.5	7.8	Ci.-S., Ci. NW	N., Cu. NNW, W	-------	☿° ↙° p.
27	56.32	26.3	31	24.4	87.8	S	.5	7.5	Ci.-S.	Cu., N. SW	12	● p.
28	57.52	27	33.2	24	85.8	S quad.	1.2	8.2	A.-Cu. SW	N. SW, S	2.3	p p.
29	57.55	26.8	31.8	23.8	83	SW quad.	.5	8	Ci.-S. SW	Cu. SW	-------	☿° ☋° p.
30	57.44	27.2	31.4	24.7	84.3	SW, NW	.3	8.3	Ci.-S.	N. SW	-------	
Mean	756.64	26.6	31.7	23.7	86.4	-------	.5	7.9	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	302.4	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.80 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	754.22	27.9	29.5	25.5	82.2	WSW	2.7	10	Ci.-S., A.-Cu.	S.-Cu. WSW	27.9	d a. ↘ ●° p.
2	55.49	26.7	29.6	23.9	87	SW	2	10	Ci.-S.	S.-Cu. WSW	16.8	p² d a. p p.
3	56.08	28.2	30.5	24.9	80.7	SSW	1.8	9.2	Ci.-S.	S.-Cu. SW	-------	●° a.
4	57.14	28.8	32.4	25.8	75.5	S quad.	1.5	7.2	A.-Cu. SE	S.-Cu.	-------	
5	57.60	27.3	31.4	24.4	84.5	N	.7	7.5	Ci.-S.	S.-Cu.	.3	☿° ∞ p.
6	57.58	26.7	31.2	22.9	87	N	.8	8.8	Ci.-S.	S.-Cu. N	35.8	d a. ● ☿ ↘ p.
7	56.28	23.2	24.7	22.2	95.5	N	.5	10	Ci.-S.	N. NE	27.5	↘ ☿° a. ● a. p.
8	56.84	26.5	32	22.6	84.3	Variable	.5	5.5	Ci.	S.-Cu. S	-------	↘ p.
9	57.97	28.1	31.7	24.8	77.8	SW	1.3	4	Ci.	S.-Cu. WSW	-------	
10	57.45	27.9	32	25.3	79.8	WSW	1.5	5	Ci.	S.-Cu. W	-------	
11	56.74	28.2	31.4	26.2	80.7	WSW	1.7	6.8	Ci.-S.	S.-Cu. WSW	-------	↘ p.
12	56.72	27.9	32.5	25.5	82.5	W quad.	1.7	7.8	Ci.-S.	S.-Cu. W, WSW	-------	
13	55.79	28.1	31.3	26.6	80.5	WSW	2.2	9.2	Ci.-S.	S.-Cu. W	-------	
14	53.86	27.7	29.6	26.6	80.2	WSW	1.8	10	Ci.-S.	S.-Cu. W	5.1	d° a.
15	52.02	27.9	29.5	26.1	79.7	SW	3.8	10	Ci.-S.	S.-Cu. WSW	1.3	p a. ↙° p.
16	54.25	28	30.3	26.4	79.3	SSW	3.5	10	Ci.-S.	S.-Cu. SW	1	↙° a. d p.
17	56.02	28.3	30.9	24.9	78.8	SSW	2.2	8.5	A.-Cu. WNW	S.-Cu. SW	1	⊕ a. ∞ d p.
18	55.94	28.6	32.6	27	80	WSW	1.7	6.3	Ci.-S.	S.-Cu. WSW	-------	☾ ↘ p.
19	54.92	27.9	30.9	26	81.5	W	1.3	10	Ci.-S.	S.-Cu. W	14	●° a. ☾ ↘ p.
20	55.68	27.7	31.8	24.1	84.2	SW	1.5	7.5	Ci.-S.	S.-Cu. SW	-------	●° a. ☾ p.
21	57.17	28.2	31.4	26.4	78.7	SSW	2	7.2	Ci.-S., A.-Cu.	S.-Cu. SW	-------	☋ p.
22	58.66	28.6	31.7	26.8	79.5	SW	1	7.5	Ci.-S.	S.-Cu. SW, WSW	-------	☾ p.
23	59.04	26.6	32.1	25	89.8	W, NW	.2	8.2	Ci.-S.	S.-Cu. W	37.5	☐◹ ●² ☿° ☾ p.
24	58	26.2	29.1	23.7	89.2	N quad.	.7	9.3	Ci.-S.	S.-Cu. NNW	4.1	●° ◠° a. ☾ p.
25	57.11	26.6	31.9	22.9	87.8	Variable	.5	7.2	Ci.-S.	S.-cf. N by W	49	●° a. d ☾ ↘ p.
26	55.66	27	31.7	24	87.3	W quad.	1.3	9	Ci.-S.	N., S.-Cu. WNW, W	16	d° ●² a. ☾ ↘ p.
27	56.17	27.8	30.4	24	81.5	SSW	2.7	8.3	Ci.-S.	S.-Cu. SW	-------	● a. ☾ ☋ ↘ p.
28	57.49	29.2	32.4	27.6	76.3	S quad.	1.7	6	A.-Cu. WSW	S.-Cu. SW	-------	☾ a. p. ↘ p.
29	57.40	28.7	31.6	26	78.8	SSW	1.8	5.5	Ci.-S., A.-Cu.	S.-Cu. SW	-------	☋ p.
30	57.24	28.8	31.6	25.8	79.8	SW	1.5	7.2	A.-Cu.	S.-Cu. SW	-------	☋ p.
Mean	756.42	27.6	31	25.1	82.3	-------	1.6	8	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	237.3	

Meteorological data for first and second class stations—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	753.96	25.5	27.6	22.9	91.8	SW	1.7	10	Ci.-S.	Fr.-N. WSW	19.9	● d a. p.
2	54.68	25.2	27.6	22.1	92.8	SW	1.3	10	Ci.-S.	Fr.-N. WSW	22.5	● d a. p.
3	55.53	26.9	29.5	23.4	84.8	SW	1.3	8.8	Ci.-S.	Fr.-N. WSW	3.3	● a. d^2 p.
4	56.76	27.4	31.6	23.9	80.2	SW	.8	8.8	Ci.-S.	Fr.-N. SW	-------	◟° p.
5	57.57	28	34.5	22	80	S quad.	.5	3.8	Ci.	Cu. SW	-------	◯ a.
6	57.72	27.9	34.5	21.5	79.5	NE	.7	5.3	Ci.-S. E	Cu.	-------	●° ◟ p.
7	56.85	26	32	22	86.7	NE	1	9	Ci.-S.	Cu. ENE	12	● a. p.
8	56.63	26.6	31.1	23.1	83.5	E quad.	1.2	5.7	Ci.-S.	Cu. S	-------	● a. d° ◟ p° p.
9	57.70	27	31.7	22.6	79.5	SW	1.5	1.8	Ci.	Cu. WSW	-------	p° a. ◟° p.
10	57.02	27.3	32.5	23.3	79.2	SW	1.7	1.7	A.-Cu.	Cu. W quad.	-------	◟ p.
11	56.52	27.3	31.3	22.9	83.7	WSW	1.3	4.8	A.-Cu. WNW	Cu. WSW	23.9	┼ ● a. d° ◟ p° p.
12	56.25	26.8	31.9	21	83	SW, WSW	2	7.3	Ci.-S.	Cu., N. WSW, W	8.6	◟ ● a. ●° p.
13	55.72	26.7	29.7	21.5	86	WSW	1.3	8.7	Ci.-S.	Cu., Cu.-N. W	29.8	● d a. ●² ⌐◹ p p.
14	53.46	26.7	29	23.2	85.8	SW	1.5	10	Ci.-S.	Cu.-N. WSW	.8	●° a. d° p.
15	51.05	27.3	29.4	24.7	84.7	SW	2.7	10	Ci.-S.	Fr.-N. WSW	6.6	●° a. d^2 p.
16	52.96	27.3	30.1	24.4	86.5	SSW	2.5	9.8	Ci.-S.	Fr.-N. SW	1.8	● a. p.
17	55.55	26.8	30.5	24.3	86.2	SW	1.3	8.5	Ci.-S.	Fr.-N. SW	2.3	●° a.
18	55.71	27.3	32	23.5	82.8	SW	1.5	4.7	Ci.-S.	Cu.-N., Cu. WSW	1	● a. ◟ ◡ p° p.
19	54.67	27.4	31.6	23.7	81.3	SW	1.2	6.5	Ci.-S. E	Cu. W	-------	◟° p.
20	55.30	27.4	30.7	23.5	82.7	SW	1.3?	5.7	Ci.-S.	Cu. WSW	2.6	● a. ◯ p.
21	56.79	27	31.1	23.6	84.7	SW	1.2	5.2	Ci.-S.	Cu.-N., Cu. WSW	1.8	●° a. ◠ p.
22	58.34	27.5	32.4	23.4	83.8	SW	1.2	3.5	Ci.	Cu. WSW, W	.8	●° d^2 p.
23	59.06	27.7	33.1	23.6	82.5	W quad.	1.2	6.5	Ci.-S.	Cu., Cu.-N. WSW	-------	┼ p.
24	58.19	26.6	33.6	22.2	87.2	NNE	.7	7.3	Ci.-S. E	Cu.	.6	●° d° p.
25	57.35	27.6	34.7	22.1	81.7	NNE	.7	4.5	Ci. E	Cu.-N. N	1.5	●° a. ◟ ● p.
26	55.68	25.8	30.1	22.6	89	W quad.	1.5	9.7	Ci.-S.	N. NNE	13	● a. p. d° ◟ p.
27	55.13	27.6	31.5	23 3	82.3	SW	2.2	9	Ci.-S.	Fr.-N. WSW	1.8	● a. ◡ p.
28	56.79	28	32.1	24.6	80.5	SSW	1.7	5.7	Ci.-S.	Cu. SW	.3	●° p.
29	56.66	26.9	30.6	24	83.3	SW	1.7	5.5	A.-Cu. SW	Cu.	1.5	● p.
30	56.71	27	31.5	23.9	83.7	SW	1.3	7	A.-Cu. SSW	Cu.-N. WSW	3.6	d° ┼° ● p.
Mean	756.08	27	31.3	23.1	84	-------	1.4	6.8	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	160	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.74 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	753.61	24.3	25	23.2	91	SW quad.	2	10	Ci.-S.	N. SW	23.4	● a. p.
2	54	24.6	26.2	23.3	88.8	SW	2	10	Ci.-S.	Fr.-N. SW	5.9	d a. p.
3	54.58	26	29	23.8	85.8	SW	1.3	9.5	A.-Cu. SW	S.-Cu. SW	.3	d° a. p. d^2 p.
4	55.58	27.2	32.1	24	80.5	SSW, SW	1.2	8.2	Ci.-Cu., A.-Cu. SW	S.-Cu. SSW, SW	-------	d° a. p.
5	56.95	27.4	32	24	81.5	S	.5	5.7	Ci.	S.-Cu. S	2.5	● p.
6	58.04	27.3	31	22.7	82.2	SW, N	.8	5.5	Ci. ENE	Cu. SW	10.2	◟ p.
7	57.27	26	29.5	23.7	90.3	Variable	1.2	10	Ci.-S.	S.-Cu., N. NE	100.1	● a. ⌐◹ a. p. ●² p.
8	56.48	24.7	26	23.1	93.7	NW	1.8	10	Ci.-S.	N. NE	76.5	●² a. p. d^2 p.
9	57.36	26.5	31.2	23	80	SW	1.3	6.7	Ci.-S. ENE	Cu. SW, WSW	-------	◯² a. ◟ p.
10	57.05	26.5	31.4	23.2	84.7	SW	.8	4.8	Ci. E	S.-Cu. W	6.4	d^2 ●° ◟ p.
11	56.48	26.3	31.2	22.3	85.8	SW	1	8.8	Ci.-S. ENE	S.-Cu. W	-------	◯° a. ⌐◹ ◟° p.
12	56.21	26.9	31.9	23.9	81.8	SW	1.2	9.3	A.-Cu. SW	S.-Cu. W	.5	d^2 ⌐◹ ◟ p.
13	55.56	26.2	31.8	23.2	86.2	SW	.7	9.7	Ci.-S.	S.-Cu. W	17.1	●° ⌐◹ ◟° p.
14	53.37	26.6	31	23.4	82.7	SW	1	9.8	Ci.-S.	S.-Cu. W, NW	.8	◯² a. ● d° ◟° p.
15	50.56	27.8	31.6	24.6	78.5	SW quad.	1.5	10	Ci.-S.	S.-Cu. W	-------	
16	51.79	28.4	32.5	25.7	76.7	SW	2.2	9.8	Ci.-S.	S.-Cu. W, WSW	.5	●° p.
17	54.67	27.5	31.8	25.2	79.5	SW quad.	1.2	9.8	Ci.-Cu., A.-Cu. SW	S.-Cu. SW	-------	d p.
18	55.34	27.7	32.8	24.5	78.7	SW quad.	1	6.2	Ci.	S.-Cu., Cu. SW	-------	d^2 ◟ p.
19	54.67	25.9	31.4	23.4	87.3	SW	.7	9	Ci.-S. ENE	S.-Cu. SW, W	3.3	◯² a. ●° d ◟ p.
20	55.09	27.2	31.8	23	81.3	SW	1.2	8	Ci. E	Cu. SW, W	-------	⌐◹° ◡° ◡° p,
21	56.46	28	32.9	23.5	74.5	SW	1	6.5	Ci. ENE	Cu. SW, W	-------	◟ ◡² p.
22	58.19	26.4	32.4	23.4	84	SW	1.3	5.2	Ci. E	S.-Cu. W, NW	2.8	⌐◹ ●° ◡° p.
23	59.12	27.2	32.2	23.3	80.3	N quad.	1	8.3	Ci.-S. E	s.-cu.,cu.-N.N.sw	43.2	⌐◹ ◟ p.
24	58.88	26.5	29.2	24	87	N	2	9.8	Ci.-S.	N. NE	17.3	●² ◯² a. ●° d° p.
25	58.18	26.5	28	24	84.5	N	2.3	10	Ci.-S.	S.-Cu. NE	32.3	d^2 ●° a. p.
26	56.44	27.2	30.5	23.1	81.3	N quad.	2.3	8.5	Ci. ENE	N. N	7.6	● d° a. ◡² p.
27	54.52	27.6	31.7	23.9	76.7	SW, WSW	1.8	9	A.-Cu. NNW	S.-Cu. W	-------	d° p.
28	55.59	27.6	30.3	25.7	77	SW quad.	2.7	8.3	Variable	S.-Cu. WSW	5.9	d ◠ ●° a. d ◡ p.
29	55.87	27.2	29.1	24.8	75.5	SW quad.	1.5	8.5	Ci.-Cu. SW	S.-Cu. WSW	-------	d° p.
30	56.37	27.2	30.4	24.1	75.3	SW	1.7	8.5	Ci.-S. S	S.-Cu. WSW	-------	d° a. p.
Mean	755.81	26.7	30.6	23.8	82.4	-------	1.4	8.4	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	356.6	

Meteorological data for first and second class stations—Continued.

PARACALE.

[ϕ=14° 17′ N; λ=122° 47′ E; barometer above sea, 5.3 meters; gravity correction not applied, —1.73 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	*P.ct.*		*0–12.*	*0–10.*			*mm.*	
1	753.17	26.5	31.1	24.2	83.7	SW	2.3	10	Ci.-S.	Cu. SW		
2	53.82	26.7	31	24.3	81.7	SW	1.8	10	Ci.-S.	Cu. SW	1.3	●° p.
3	54.64	27.4	33.3	24	80.8	SW	.8	10	Ci.-S.	Cu. SW		●° a.
4	55.97	28	33	25.6	77.2	SW	1.3	9.5	Ci.-S.	Cu. SW		
5	57.28	28.2	34.3	24.5	76.8	SW	1	6.8	Ci.-S.	Cu. SW		
6	58.20	27.7	33.6	23	82.3	N, NE	.3	4	Ci.	Cu. NW, WNW	2.8	Ω a. ≤ ● p.
7	57.48	27.2	32.3	23.4	88.7	ENE	1.2	10	Ci.-S.	S.-Cu. NE	63.8	● d° a. ●² ⌐⊻ ≤ p.
8	56.14	27.2	32.8	23.2	85	ENE, E	1.2	9.7	Ci.-S.	Variable E	21.6	● a. p.
9	57.28	26.9	32.3	23.6	84	SW	1	6.8	Ci.-S.	Cu. SW		Ω² a.
10	56.75	27.9	33.3	24.1	80.3	SW	1.3	2.7	Ci.	Cu. SW		Ω a. ≤ p.
11	56.43	27.5	33.3	24.9	84.3	SW	.8	10	Ci.-S.	Cu. WNW	26.9	⌐⊻ a. p. ● ≤ p.
12	56.08	27	33.3	22.5	86.5	SW, WSW	1.3	7.2	Ci.	Cu. WSW	27.4	● a. p. ⌐⊻ ⌒° ≤ p.
13	55.48	27.2	33.3	23.9	82.5	SW	1	6.7	Ci.	Cu. SW	.5	Ω² a. ●° ≤ p.
14	53.17	26.9	32.8	24.5	83.7	SW	1.3	10	Ci.-S.	Cu.	3.3	d ● p.
15	50.16	27.5	30.1	25.5	83.7	SW	2.2	10	Ci.-S.	Cu. SW		
16	51.62	27.7	31	26.6	82.5	SW	1.8	10	Ci.-S.	Cu. SW		d° a. p.
17	54.54	27.8	32.8	25.5	83.5	SW	1	9.7	Ci.-S.	Cu. SSW	2.5	●° a. p. ⊤ p.
18	55.26	28.2	34	24	81.7	SW	1	6	Ci.	Cu. SW		Ω² a. ⌒° ≤ p.
19	54.56	27.8	33.3	24.8	81.7	SW quad.	1	7.7	Ci.-S.	Cu. SW, W		Ω a. ☋ p.
20	54.84	27.8	33.4	24.5	80.7	SW quad.	1.3	6.5	Ci.	Cu. WSW		Ω a. ≤ ☋ p° p.
21	56.37	27.8	33	25	79.8	SW	1	6.8	Ci.-S.	Cu. W quad.	.5	●° p.
22	57.98	28.3	33.3	24.6	78.2	SW	1.3	6.2	Ci., Ci.-S.	Cu. W		Ω a. ≤ p.
23	59.26	27.2	31.7	24.5	84	SW, WSW	.3	10	Ci.-S.	Cu. WNW	6.1	d° ●° p.
24	58.87	25.7	29.7	23.8	91.7	NE	.7	10	Ci.-S.	S.-Cu. NE quad.	64.8	● a. p. ⌒° p.
25	58.22	26.4	29.8	23.5	89.7	N	.7	10	Ci.-S.	S.-Cu. N	11.3	● a. p.
26	56.23	27	30.3	24.5	87.2	N	.8	10	Ci.-S.	Cu. N quad.	15.9	● a. p.
27	54.03	27.2	31.2	25	84.8	SW	2.2	10	Ci.-S.	Cu. SW		d° a. ☋ p.
28	55.63	27.8	31.9	26.1	81.3	SW	2	8.2	Ci.-S.	Cu. SW		d° p.
29	55.80	27.3	31.2	25.4	78.2	SW	1.3	9.7	Ci.-S.	Cu. SW		d° p.
30	56.50	27.3	31.3	25	79.3	SW	1.2	10	Ci.-S.	Cu. SW	2.8	d° ● a.
Mean	755.73	27.4	32.3	24.5	82.8		1.2	8.5				
Total											251.5	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

	mm.	°C.	°C.	°C.	*P.ct.*		*0–12.*	*0–10.*				*mm.*	
1	753.74	25.1	29.8	23.2	94.3	SW	1.3	9.3	Ci.-S.	NW	N. SSW	16.5	≡° d° a. ● p.
2	53.96	25.7	29.7	22.8	91	SW	2.3	8.5	Ci.	NW	N. SW	5.1	
3	54.48	25.5	29.9	23.1	91.8	S	2.5	9.2	A.-Cu.	W	N. S, SSW	9.4	d° ● a. p.
4	55.61	25.4	29.2	23.4	94.3	SSW	1.8	8.2	A.-Cu.	W	Cu. SSW	12.5	☋² ●° ⌿ a. ⌒² ● p.
5	57.18	27.1	32.1	23.4	84.5	S	2	6.2	A.-Cu.	SW	Cu. S		☋ ≡° d° a. ⊤ ≤ p.
6	58.47	27.7	32.9	23.2	83.5	S	1.5	4.5	Ci.	SE	Cu. S	.5	Ω² a. d ≤ ⌐⊻ p.
7	57.96	26.2	32.4	23.1	90.3	N	1.3	7	Ci.	ESE	Cu. N	99.3	Ω ≡° a. ●² ⌐⊻ p.
8	57.57	24.1	30.2	23.4	97.2	N	1.2	10	Ci.-S.	SE	N. Variable	27.2	d ● a. p.
9	57.81	26	29.5	23.9	90.7	SW	.8	8.3	A.-Cu.	SW	Cu.-N. W		d° ≤ p.
10	57.48	27.1	31.8	23.4	87.2	S	1.2	5.3	A.-Cu.	SW	Cu. SW	8.6	Ω a. ● ⌐⊻ d ≤ p.
11	56.87	26.6	31.4	24.4	92.8	S, N	1.3	9	Ci.-S.		Cu.-N. SW	26.1	≤ ⌐⊻ a. p. ● p.
12	56.93	26.5	31.4	23.5	89.3	WSW	1	8.8	Ci.-S., Ci.	NE	Cu., Cu.-N. W	6.3	d a. p. ⌐⊻ ⌒ p p.
13	56.24	26.7	32.3	23.8	88.3	SW	1.3	7.7	A.-Cu.	NW	Cu. W	24.9	⌐⊻ ● d° ⌒ p.
14	54.08	26.8	31.4	23.5	90	W quad.	1.2	8.8	Ci.	NE, E	N. SW, WNW	7.6	○² ● d p.
15	51.35	27	29.7	25	92.8	SW	1.3	9.8	Ci.-S.		N. W		⊕ ≤ p.
16	51.99	27.6	31.4	25.3	87.2	SW	1	9	Ci.	NE	Cu. W	1	≡° ○ a. Ω a. p. d p.
17	54.76	26.3	31.9	24.3	92.8	SSW, SW	1.8	7.5	A.-Cu.	W	N. SW	23.1	Ω² ≡° ●² a. d° p.
18	55.83	27.2	32	24.1	89.3	S	2	7.2	A.-Cu.	WSW	Cu. NW, SSW		Ω ≡° a. d° ⌒ ⌐⊻ p.
19	55.07	26.8	32	23.8	88.2	N	1.3	7.5	Ci.	SE	Cu.-N. WNW	.8	◌ a. p. d° ⌐⊻ ≤ p.
20	55.63	27.3	33.1	24.1	88.2	SW	1.3	6.5	A.-Cu.	NW	Cu. WSW	4.1	≡ a. p. ● ⌐⊻ p.
21	56.80	27.5	32.6	23.8	86	WSW	1.2	5.2	Ci.	ENE	Cu. W		≡ a. Ω a. p. ☋² p.
22	58.61	26.6	32.4	23.2	88.5	W quad.	1	6.2	Ci.		Cu. W, WSW	13.2	Ω² ≡ a. ● ⌐⊻ ☋° p.
23	59.64	26.8	32	23.5	85.2	N	1.2	6.5	Ci.	SE	Cu. WNW		≡ ∞ a. Ω ☋ p.
24	59.20	26	30.5	23.5	90.3	NW, N	1	8.8	Ci.-S.	SE	Cu. E	8.6	Ω² ≡ d° a. ☋° p.
25	58.50	26.6	31.6	23.4	88	NE quad.	1.3	8.3	A.-Cu.	ESE	Cu. ENE	1.5	● a. d° a. p.
26	57.10	26.4	32	22.3	86	NW	1.3	6.5	A.-Cu.	E quad.	Cu. NNE		Ω² ≡² a. Ω p.
27	55	26	30.2	24	94.5	W quad.	1.3	10	Ci.-S.		N. W	6.8	d a. p. ● ⊤° p.
28	55.38	27.2	33.9	24.2	88.2	SW	2	8.5	Ci.-S.	NNE	N. WSW	4.8	d a. ● p.
29	56.60	26.9	30.8	24	87.3	SSW	2.3	9.5	A.-Cu.	W	Cu. SW	1.3	d ≤ p.
30	57.24	24.9	28	23.5	95.5	SSW	2.2	10	Ci.-S.		N. SW	7.9	d° a. ●° p.
Mean	756.24	26.5	31.3	23.7	89.8		1.5	7.9					
Total												317.1	

Meteorological data for first and second class stations—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	753.73	25.4	29.4	23.5	92	Variable	0.5	9.7	A.-Cu.	N.	43.4	p a. ● a. p.
2	53.43	26	31.5	23.2	91	Variable	.7	9.7	A.-Cu.	N., Cu.-N. S	10.2	● a. p.
3	53.61	26	31	24.1	90.7	SE	1.8	9.2	A.-Cu.	S.-Cu. SE, SSE	10.4	d^2 a. p. ● p.
4	54.61	26	31.3	24.3	88.5	SE	1.8	8.5	A.-Cu.	S.-Cu. SE	11.7	p ●° p.
5	56.45	26.8	32	23.9	87.3	SE	1.7	8.8	A.-Cu.	S.-Cu. SE	2.3	p ⌒ ⊤ p.
6	58.11	28.4	34.1	24	83.7	S quad.	1.3	4.8	Ci.-S., A.-Cu.	Cu.	3.1	d ≲ ⌐⊿ p.
7	57.69	28	32.1	24.9	87.8	W quad.	1.2	8.2	Ci.-S.	Cu., N.	-------	p ⊤° a. $\lesssim^2$ ⊤ p.
8	57.20	26.1	29.4	24.9	92.2	N quad.	.8	9.7	A.-Cu.	N.	16	p a. d ●° p.
9	57.28	27.2	31.6	24.9	86.5	SW	.7	8.5	A.-Cu.	S.-Cu., N.	.3	d a. p.
10	57.05	27.7	31.4	24.5	84	NW	.7	7.8	A.-Cu.	S.-Cu., N.	-------	$\lesssim^2$ p.
11	56.26	27.6	33.1	24.5	89.5	SW	1.5	8.5	A.-Cu.	S.-Cu. SE, SW	33.5	≲ ⊤ ⌒ a. p° ● ⌐⊿
12	56.67	26.8	32	23.5	88.5	Variable	.8	9.2	A.-Cu.	N. SW	1.1	● a. d p.
13	55.92	27.4	32	24.4	88.5	Variable	.7	7	A.-Cu.	Cu., S.-Cu.	9.4	p p.
14	53.86	27.5	31.9	24.1	88.8	N quad.	1.2	7.5	A.-Cu.	Cu. SW	13.7	p p.
15	50.98	27.6	29	25.7	90.5	NW	1.8	10	Ci.-S.	N. NW	5.6	●a. d^2 p ≲° ⊤ p.
16	51.76	28.2	30.4	25.8	87.5	W	1.8	9.3	A.-Cu.	N.	2.5	☋ p.
17	54.24	27	30.9	24.6	91.8	Variable	1	8.8	A.-Cu.	S.-Cu., N.	9.9	d p a. d ⌐⊿ ☋ p.
18	55.21	27.5	32.1	24.4	88.5	NW	.7	8.2	A.-Cu.	S.-Cu., N.	2.1	d ● a. p ≲ p.
19	54.67	27.8	31.5	24.8	86.2	W quad.	1.2	9	A.-Cu.	Fr.-N. SE	-------	d° a. ☋ ≲ p.
20	55.03	28.1	32	24.9	86.3	NW	.8	8.3	A.-Cu.	Cu., S.-Cu.	-------	≲ ⌐⊿ p.
21	56.67	27.6	32.1	24.4	87.3	NW quad.	.8	8	A.-Cu.	Cu., S.-Cu.	.5	Ω a. d p.
22	58.47	27.8	31.7	23.9	86.5	NW quad.	1	4.8	A.-Cu.	S.-Cu.	-------	∪ ☋ p.
23	59.36	28	31.9	24.3	86.5	NW	.8	7	A.-Cu.	Cu., S.-Cu.	.8	d ⌒ p.
24	58.83	27.2	33.1	23.8	90.2	E	.7	8.5	A.-Cu.	S.-Cu.	.3	⌐⊿ d° ∪° ☋ p.
25	58.16	27.1	33.1	24.1	89.2	SE	.8	8	A.-Cu.	S.-Cu.	-------	☋ a. d° ≲ ⌐⊿ p.
26	56.88	27.4	32.5	22.8	88.7	NNW, NW	.3	5.2	Ci.-S., A.-Cu.	S.-Cu.	.3	Ω a. d° ⌒ ≲ ∪ p.
27	54.78	26.8	29.5	24.4	90.3	NW, NNW	1.5	9.7	A.-Cu.	S.-Cu., N. NNW	13.8	d° a. p. p° p.
28	54.94	26.7	30	24.4	91	NW	2.3	9.7	A.-Cu.	N. W, NW	19.1	p ● a. d p ☋ p.
29	56.24	26.4	31.5	23	93.8	W quad.	1.2	10	A.-Cu.	N. SW	94.5	p^2 ● ⌐⊿ p.
30	56.82	27.1	31.4	23.5	89.7	W quad.	.8	7.7	A.-Cu.	S.-Cu., N.	1.5	∪ a. p° p.
Mean	755.83	27.2	31.5	24.2	88.8		1.1	8.3				
Total											306	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 9.7 meters; gravity correction not applied, —1.65 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	752.81	24.4	29.4	22.9	94.8	S quad.	2.5	10	-------	N.	119.9	●^{2} a. p.
2	52.76	25.9	29.9	23.1	89.7	S quad.	3.2	10	Ci.-S.	Cu. S	.5	● a. d ⌒ p.
3	52.90	25.6	29.4	23.6	91	S quad.	3.7	10	Ci.-S.	Cu. SSE	10.1	⌒ a. ● p.
4	53.85	26.3	30.6	23.5	86	SSE	4.7	10	Ci.-S.	S.-Cu.	1.3	p a. ⌿° a. p. ⊤ p.
5	55.84	26.7	30.4	24.6	87.2	SSE	4.7	9.2	Ci.-S.	N.-cf., Fr.-Cu. SSE, S	1.3	p° a. p. ● ⊤ ⌒ p.
6	57.94	27.6	32.8	24.4	84.2	S	2.8	5.3	Ci.-S.	S.-Cu.	-------	Ω a. ⊤ p.
7	57.54	28.5	32.9	24.9	84.2	W quad.	3	9.7	Ci.-S.	Cu. WNW	.3	●° a. p. ⊤ ≲ p.
8	56.98	26.1	30.1	24.3	91.2	S	2.7	10	Ci.-S.	N.-cf.	11.5	● a. p.
9	57.04	27.1	31.2	24	86.7	S, SW	3	10	Ci.-S.	S.-Cu.	-------	● p.
10	56.88	26.3	31.1	24.1	88.7	S	2.5	10	Ci.-S.	S.-Cu.	22.1	● a. p. ≲ p.
11	56.04	26.4	31	24.4	89	SW quad.	2.5	10	Ci.-S.	Variable	49	● ≲ a. p. ⌐⊿ ⊤ p.
12	56.19	25.5	31.4	23	89.5	SW quad.	3.2	10	Ci.-S.	Cu. SW	31.2	●^{2} a. ⊤ ● d p.
13	55.68	26.6	31.5	23.8	87.3	S, SW	2.7	10	Ci.-S.	Variable	10.5	●° a. ○° ● p.
14	53.68	27.5	32	23.9	84.2	W quad.	3	10	Ci.-S.	Cu.	10.4	
15	51	27.8	30	26.4	87.5	NW quad.	3.3	10	-------	N.-cf.	5.6	● p° a. p.
16	51.64	28.2	31.4	25.6	82.2	WNW	3.5	10	Ci.-S.	Cu. SW	4.6	p° a. ● a. p.
17	53.90	27.3	31.5	24.9	85.5	SW	3	10	Ci.-S.	Cu. SW	2.1	p a. p.
18	55.16	26.8	31.5	23.6	85.8	S	2.7	10	Ci.-S.	Cu. SW	10.7	● a. p.
19	54.67	26.5	30.6	24	88.5	S	2.2	10	Ci.-S.	S.-Cu.	.5	Ω a. d^2 a. p.
20	55.08	27	31.1	24.4	86.3	SW quad.	2.2	10	Ci.-S.	S.-Cu.	.3	Ω d ●° a.
21	56.50	26.4	30.9	24.1	87.8	S, SW	2.5	10	Ci.-S.	S.-Cu.	.9	Ω a. ●° a. p.
22	58.24	26.9	32	23.4	83.7	WSW, S	2.7	10	Ci.-S.	S.-Cu., Cu.	-------	d a. ∪° p.
23	59.36	27	32	22.4	81.3	S, NW	2.2	7.8	Ci.-S.	S.-Cu.	-------	Ω^2 ∞ a. ○° ∪° p.
24	58.68	27.1	31.7	24.5	85.2	SE quad.	2.5	10	Ci.-S.	S.-Cu.	18.8	Ω a. ○° ⌐⊿ ● p.
25	58.05	27	31.2	23.4	86.3	SE quad.	2.5	9.8	Ci.-S.	S.-Cu.	.8	Ω a. ⊤ ●° p.
26	56.69	27.5	32	23.2	82.8	N	2.7	8.5	Ci.	S.-Cu., Cu.	-------	Ω a.
27	54.74	28	29.7	25.6	82.3	NNE	5.5	10	Ci.-S.	N.-cf.	9.5	p° a. p. ⌿° p.
28	54.98	27.1	30.1	25.1	83.8	NW, WNW	4.7	10	Ci.-S.	S.-Cu., N.-cf.	2.6	p a. p. ∪^{2} p.
29	56.02	26.8	31.4	24.4	87.2	NW quad.	2.7	10	Ci.-S.	N.-cf.	9.4	●° a. p. ● p.
30	56.48	26.7	31.9	22.9	85.5	S	2	9.8	Ci.-S.	S.-Cu.	17.3	●° p.
Mean	755.58	26.8	31.1	24.1	86.5		3	9.7				
Total											351.2	

Meteorological data for first and second class stations—Continued.

BAGUIO.[a]

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1,512.5 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	631.46	16.6	17.7	15.4	97.8	W	2	10			58.9	● a. p. ≡² p.
2	31.68	17.3	21.8	16	98.2	W	1.7	10		Fr.-N. W	20.4	≡² ●° a. ≡ ● p.
3	32.10	18.1	22.2	16.1	93.8	E quad.	2.3	8.9	A.-Cu. WSW	Fr.-N. SE	2.1	≡ a. ●° p.
4	33.06	17.2	20.7	16.4	94	SE quad.	1.8	9.4	A.-Cu.	Fr.-N. S	4.4	●° a. p. ≡° p.
5	34.67	17.9	21.4	16.2	91	SE	2.2	9.1	Ci.	Fr.-N. S quad.	9.4	d² a. ⌐◹° ● p.
6	36.34	18.8	25.3	15.6	90.7	E	1.2	5.7	Ci.	Fr.-Cu. SE	5.3	d² a. ≡² ● ⊤° p.
7	35.93	19	22.5	16	93.2	E quad.	1	9.3	Ci. NbyE	Cu. NE		≡² d° p.
8	35.25	17.4	21.2	15.8	93.5	E	.8	9.6	A.-Cu. E	N. ENE	22.9	≡ d a. p. ● p.
9	35.31	17.5	19.7	16.3	94.5	W	1.5	10		Fr.-N.	10.4	● ≡² p.
10	35.22	17.3	21.9	15.4	97.2	W	1.3	9.9	Ci.	Fr.-N. W	3.5	● a. ≡² ●° p.
11	34.66	17.9	23	16.3	95.2	W quad.	1.2	9.6	A.-Cu. WSW	S.-Cu., Fr.-N. SW, SSE	25.6	● a. p. ⌐◹ ≡ p.
12	34.67	17.9	23.2	15.6	94.7	W	1.5	10	Ci.-S.	Fr.-N. W, WbyN	43.4	♌ ≡² ○ a. ● p.
13	34.18	17.8	23.6	15.4	95.3	W	1.7	9	Ci.-S.	Fr.-N. WNW	35.1	≡ a. p. ● p.
14	32.37	17.8	21.8	15.6	94.8	W	1.5	10	Ci.-S.	Fr.-N. NNW	14.3	♌ a. ● p.
15	30.10	17.6	19.3	16.5	94	N quad.	2.3	10	Ci.-S.	Fr.-N. NNW	91.5	●° a. p. ⌐◹ ● p.
16	30.19	17.2	18.4	16.1	98.7	WNW	5.7	10			67.1	≡² ↙ ●² a. ● p.
17	32.86	17	18.5	15.6	98.3	W quad.	2.7	10	Ci.-S.	S.-Cu.	18.2	● ≡² a. ≡ ●° p.
18	33.68	17.6	21.8	16	94	W quad.	.8	9.9	Ci.-S.	S.-Cu.	15	●° a. ≡² ● p.
19	33.36	17.6	20.5	15.5	94.7	W quad.	.7	9.7	Ci.-S.	Fr.-N. SSE	17.5	● ≡² p.
20	33.60	17.6	21.8	16	93.8	W	1.5	9.6	Ci.-S., Ci.-Cu.	Fr.-N. W	.3	d a. ≡² ●° p.
21	34.79	16.6	19.7	15.4	96.5	W quad.	2.3	10	A.-Cu.	Fr.-N. W quad.	6.6	●° ≡² a. p.
22	36.29	17.8	21.4	15.1	87.7	W	1.7	8.3	Ci., A.-Cu.	Cu. W	.5	d² a. ≡° a. p.
23	37.28	18.1	24.1	15.2	77.8	W quad.	1.3	7.1	A.-Cu. E quad.	Cu.-N. NW	17.3	⊕° ⌐◹° ● p.
24	36.78	18.3	23.3	15.6	86	E	1	9.4	A.-Cu. NE	S.-Cu., Cu.	19.1	≡ ● p.
25	36.29	18	24.5	16	85.8	SE quad.	1.2	8.9	A.-Cu. EbyN	Variable	.5	⊤ ≡ ●° p.
26	35.18	18.4	23	15.6	83.2	Variable	1.8	7.7	A.-Cu. ENE	S., S.-Cu. W, E	23.1	≡° ●² p.
27	32.88	17.1	19.1	16	94.3	NW quad.	1.8	9.9	A.-Cu. NE	Fr.-N. NNW	55.2	≡ ●° a. p. ↙° ● p.
28	32.32	16.9	17.9	15.5	99.3	NW quad.	5.3	10			135.3	●² ≡² ↙ a. p.
29	34.12	17	20.5	15.5	97	W quad.	3.5	10			22.7	●° ≡² a. p. ● p.
30	34.63	17.6	23.3	14.8	78	W quad.	2	7.3	Ci. NE	Variable W quad.	4.1	
Mean	634.04	17.6	21.4	15.8	92.8		1.9	9.3				
Total											749.7	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 14.7 meters; gravity correction not applied, —1.61 mm.]

	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	752.65	25.2	27.7	23.2	93.8	SE quad.	1.2	9.5	A.-Cu. SSW	Cu.-N. S	7.2	d a. p.
2	53.02	25.8	29.7	23.4	89.8	S quad.	1	9.5	A.-Cu. NE	Cu.-N. S	76.2	●² ⌐◹ p.
3	53.47	25.9	30.6	23	90	N quad.	1.2	8.8	A.-Cu.	Cu., Cu.-N. NNW, NE	51.4	●² ⌐◹ p.
4	53.94	26.8	31.2	23.2	87	S quad.	1	7.8	A.-Cu. S	Cu. SE		d a.
5	55.72	27.5	31.8	23.8	83.5	S quad.	1.2	4.5	Ci.	Cu. SSW	.8	⊤ d p.
6	58.04	27.5	31.2	24.2	87	Variable	.2	5.7	Ci.	Cu. NNE, NNW		
7	57.33	28	32.1	24.2	86.3	NW quad.	.7	4	Ci.	Cu. NE, NW		⌐◹ p.
8	56.86	27	31.2	23.7	88.2	S quad.	.8	7	A.-Cu. NE	Cu. SW	17.9	⌐◹ ● d p.
9	57.20	26.7	30.3	23.5	88.7	S quad.	.7	8.2	A.-Cu.	Cu. SSW	13.7	
10	56.98	26.4	30.2	23	90	S quad.	1	8	Ci.-S. NE	Cu. SSW	2.8	● a. ⌒ d a. p.
11	56.04	26.8	30.2	24	87.7	S quad.	.5	7	A.-Cu. SSW	Cu. SSW	2.6	d ⌒ ⌐◹ p.
12	56.10	26	29.9	23	90.8	SE quad.	1	9	Ci.-S.	Cu. SSW	24.9	d ● ↘ p.
13	55.51	26.9	30.6	23.4	88	S quad.	1.2	7.5	Ci.-S.	Cu. SSW	16.3	d a. ● p.
14	53.73	26.5	30.8	23.2	91	Variable	.5	7	Ci., A.-Cu. NNE	Cu. NNW	38.6	⌐◹ ● p.
15	50.71	26.7	29.3	23.8	90.2	N quad.	1.8	9.5	A.-Cu.	Cu.-N. NW quad.	38.2	⌐◹ ● a. p. ⊕ ↙° p.
16	50.79	27	28.4	24.5	87.7	W quad.	1.8	9.8	A.-Cu.	Cu.-N. W quad.	22.5	d a. p. ●° p.
17	53.63	26.3	29.1	23.7	91.7	SSE	1.8	8	A.-Cu. SW	Cu.-N. SSW	32.3	d ● a. p. p ⌓ p.
18	55.28	26.7	30.4	23.5	88.5	SE quad.	1.2	8.3	A.-Cu. SSW	Cu. SSW	16.1	d a. ● p.
19	54.87	25.8	30.3	23	91.2	S quad.	.8	8	Ci.-S.	Cu.-N., N. SSW, SW	28	d a. ● ⌐◹ p.
20	54.98	26.9	30.5	23.2	87.7	S quad.	1.2	7.7	Ci.-S.	S.-Cu., Cu. SSE, SW	5.9	d a. p. ● p.
21	56.66	25.4	28.6	22.7	92.8	S quad.	.7	9.8	Ci.-S.	Cu.-N., N. S	26.7	●° a. p. ● p.
22	58.32	25.9	29.2	23.2	86.7	SE quad.	.8	8.2	A.-Cu.	Cu.-N. SSW	1.8	d a.
23	59.47	27	31.2	23.2	84.5	SE quad.	1	5.2	A.-Cu.	Cu. ESE, WSW	11.9	♌ a. ⌒ ⌐◹ ● p.
24	58.66	26.9	31.7	23.5	87.3	SE quad.	.8	6.3	Ci.-Cu. ENE	Cu. ESE, WNW	2.6	d ⌐◹ p.
25	58.03	26.3	32.2	23	89.8	N quad.	1	6.8	Ci.-S.	Cu.	24.1	●² ⌐◹ p.
26	57	26.4	30.7	22.6	86.2	N quad.	1.7	7.3	A.-Cu. NE	Cu. NE	2.3	⊕ a. ⌒ d p.
27	54.36	25.2	27.4	22.1	93.2	N quad.	2.7	9.7	Ci.-S.	N. N quad.	74.2	d a. ● ⌓ p.
28	53.34	25.8	28.5	22.1	93.3	NW quad.	3.7	10		N. NW	9.5	●² ↙° a. ● ⌓ p.
29	55.82	26.4	29.3	23.8	89.7	SW quad.	.8	9.5	A.-Cu.	Cu.-N. SW		⌓ a. ⊕ p.
30	56.47	26.2	30.2	22.8	87	SW	.7	8.3	A.-Cu. NW	Cu. SW	4.8	♌ a. d p.
Mean	755.50	26.5	30.2	23.3	89		1.2	7.9				
Total											553.3	

[a] The barometric readings of this station are not reduced to sea level.

Meteorological data for first and second class stations—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	752.51	26	33.1	23.2	87.5	SE, NE	0.3	9.7	Ci.-Cu.	Cu.-N. S, N	9.6	d a. ● p.
2	53.17	26.8	32.8	23.3	85.2	SE, N	.3	9.7		Cu.-N. S, N	2.3	d a. ● a. p.
3	53.70	26.4	32.2	23.5	84.2	NE	.7	8.7	Ci.-S.	Cu.-N., N. N		d^2 a.
4	54.35	27.8	35.6	24.6	82.3	SE	1.2	8.2		Cu.-N. S	3	☊° a. ● p.
5	56.14	28.4	35.1	23.4	77	SE	.7	3.5	Ci.	Cu. S		☊° a.
6	58	28.8	36.4	24	77.2	NW	.5	3.3	Ci.	Cu. S, NE		☊² a. ⊤² p.
7	58.09	27.4	35	23.5	83	NNE, NW	.3	5	Ci.	Cu.-N. NW, N		☊ a. ⌐◪° ≤ p.
8	57.41	26.7	34.6	23.5	86.5	Variable	.7	6.3	Ci.-S.	Cu.-N. N	10.2	☊° ◯² a. d^0 ⌐◪ ≤ p.
9	57.08	27	37.4	23.6	86.5	NW	.7	7.5	Ci.	Cu.-N. SW, N	5.3	● a. p. ⊤° ⌐◪ ≤ p.
10	56.84	27.3	34	23.6	84.2	NW	.5	6.8		Cu.-N. N		d^0 p.
11	56.25	26.8	35.1	23.4	86	Variable	.8	8.5	Ci.-S.	Cu.-N. NE	2.5	d a. ● ⌐◪ p.
12	55.95	27	34	22.7	81	NW	.8	7.3	Ci.	Cu.-N. N		d a. ≤ p.
13	55.45	27.9	35.4	24	82.2	Variable	1	7.3	Ci.-S.	Cu.-N. N		☊² ◯² a.
14	53.42	27.4	34.4	23.5	84.8	N	.8	7	Ci.	Cu.-N. N	117.7	☊ a. ◠ ≤ $●^2$ ⌐◪° p.
15	49.68	24.6	27	23	94.3	W quad.	1.2	10		N. S, N	83.8	$●^2$ ⌐◪² a. ● ≤ p.
16	48.04	26.4	31.9	23.5	90.7	SE quad.	.8	9.2	Ci.-S.	Cu.-N. SW quad.		●° a.
17	52.78	28.1	36.5	23	80	SE	1	6.7	Ci., Ci.-S.	S.-Cu., Cu.-N. S, NW	12.2	☊² a. ● ⌐◪ p.
18	55.07	27	34.1	23.6	85.5	NW	.8	8.3	Ci.	Cu.-N. S	18.1	d a. ⊤ ⌐◪ ● p.
19	54.99	26.8	33.4	23.5	87.2	NW, N	.7	7.5	Ci.	Cu.-N. N, E	6.1	● a. p. ≤ p.
20	54.66	28	34.7	24.6	83.2	NW	.7	7		Cu.-N. N		●° a. ≤ p.
21	55.75	27.2	35	23.5	83.7	Variable	1	7.7		Cu.-N. S	6.6	●° ≤ p.
22	57.58	26.6	34.8	23.4	87.7	NW	.5	5.5		Cu., Cu.-N. N	10.2	●° ◠° p.
23	59.58	26.7	34.2	23.2	85.7	NW, NE	.3	8.5	A.-Cu., Ci.	Cu.-N. NE	14.9	d ● a. ◠² ⊤ ●° p.
24	60.08	25.8	32.8	23.5	89.5	NW, SW	.5	10		N., Cu.-N. NW, N	2	●° ◠ a. d p p.
25	59.52	24.8	32	23	93.2	SE	.3	7.7		Cu.-N. S, NNW	32.5	$●^2$ p.
26	57.76	25	31.7	22.7	93.8	N quad.	1.2	8.2		Cu.-N. N, NE	32.3	● p.
27	52.16	24.5	26.1	23.5	97.4[a]	NW	3.5	10		Cu.-N., N. N	98.3	● a. $●^2$ ↙° p.
28	49.04	26.3	31.7	24.1		S quad.	1	9.3		N., Cu.-N. SE, W		● a. d p.
29	53.52	26.4	32.1	22.8	85.7	S	.2	7	Ci.-S.	S.-Cu. S		●° a.
30	55.08	26.2	35	21	81.3	NNE	.2	4.5	A.-Cu. N	Cu. NW		☊² a.
Mean	755.12	26.7	33.6	23.4	85.7		.8	7.5				
Total											467.6	

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	751.80	27.2	32	23.7	84.3	Variable	1.2	9.2	Ci.-S. E	S.-Cu. E	33.1	
2	52.71	26.7	31.8	23.6	86.5	Variable	1.8	9	Ci.-S. E	S.-Cu., N. E, NE		● a. ≤ p
3	53.57	26	30	23.5	86.5	SE	1.3	7.5	A.-Cu. E	S.-Cu. E	1.3	☊ a. ●° a. p. ≤ p.
4	54.26	26.2	32.5	23.6	89	S	1.5	9.2	A.-Cu. SW	Cu.-N. SE, S	70.7	⌐◪ $●^2$ p.
5	55.93	27.5	32.7	23.3	84.2	SW	1.3	2.8	Ci. E	Cu.-N. SW		≤ p.
6	57.98	28.4	32.8	24.6	80.8	Variable	.8	.3	Ci.	Cu.-N., S.-Cu.		≤ p.
7	58	28.4	33	25.1	80.8	NE	1	.2		Cu.-N.		☊ a.
8	57.22	27.8	33	24.6	81.8	S	1	2.8	Ci. S	Cu.-N. NE		☊ a. ⊤ ≤ p.
9	56.60	27.9	32.6	24	82.5	Variable	1.7	4.7	A.-Cu. S	Cu.-N. N	.8	⊤ ⌐◪ ● p.
10	56.54	27.5	32.3	24.2	81.7	NE, N	1	5.7	Ci.-S. E	Cu.-N., S.-Cu.	.8	◠ ⌐◪ ≤ p.
11	55.93	27.3	32.2	24.1	82.8	W quad.	1.2	7.2	Ci. E	Cu.-N. N		●° ≤ ⌐◪ a.
12	55.68	27.3	31.6	23.6	84	SW	1.2	6.2	Ci. NE	Cu.-N. SW, NE	6.9	⌐◪ ● p.
13	55.21	27.2	31.4	23.6	84.5	S	1.5	3.8	Ci. NE, E	Cu.-N. NE		●° a.
14	53.06	27	30	23.6	85	W quad.	2.3	5.3	Ci. E	Cu.-N., S.-Cu.	20	● ≤ p.
15	48.44	27.5	28.6	25.4	85.8	NW quad.	5.3	10		N. N	32	≤ a. ● ↙° a. p.
16	47.23	26	28.4	24.1	85	W quad.	1.3	10	Ci.-S. W	S.-Cu. W		●° a.
17	52.30	28.1	33.5	24.6	76.7	SW	1.7	8	Ci., A.-Cu. E, W	S.-Cu. SW		⊤° ⌐◪ p.
18	54.98	26.9	31.4	24.1	85.7	N	1.2	8.8	A.-Cu. S	S.-Cu. NE, N	12.9	● p.
19	54.56	26.6	31	23.6	85	Variable	1	9.2	Ci. E	S.-Cu., Cu.-N. N	5.4	●° a. ≤ p.
20	54.58	27.5	31.6	24.1	84.5	Variable	1.3	6	A.-Cu. NE	S.-Cu. NNW		● a.
21	55.19	27.6	33	24.1	83.2	Variable	.8	5.8	Ci.-S. N	Cu. SW	2.5	⊤ ● p.
22	57.24	26.9	32.2	23.2	84.5	S	1	7.7	Ci. E	S.-Cu. SW	.5	⊤° ●° p.
23	59.54	26.8	33	23.6	82.2	S	1.3	5.8	A.-Cu. E	S.-Cu. NE	14.3	● p.
24	60.12	25.1	27.5	23.5	90.7	NE quad.	2	9		S.-Cu. E	51.9	●° a. $●^2$ p.
25	59.52	27.2	31	24.5	82.3	ENE	2.7	7		Cu.-N. ENE, NE	14.7	●° a. p.
26	57.88	26.4	28.7	23.6	88.2	NE	2.8	10	Ci.-S.	Cu.-N. NE	31.5	● a. p.
27	52.21	25.8	27.5	23.?	89.7	N, NNE	5	10	A.-Cu.	N. NE quad.	151.7	● a. ↙° $●^2$ p.
28	45.85	24.7	27.5	23.?	91.2	W	5.7	10		N. W	50.7	↙° $●^2$ a. ● p.
29	53.06	25.1	27.7	23.1	82.8	SW	.8	10	A.-Cu.	S.-Cu. W	.5	●° a.
30	54.90	25.6	30.5	22.4	84.8	NW	.8	6.2	Ci.-S. NE	S.-Cu. W		
Mean	754.74	26.9	31	23.8	84.6		1.8	6.9				
Total											502.2	

[a] Deduced from five observations only.

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.1	23.4	90	58	7	7	------	○ a.
2	33.8	24.2	88	72	9	9	------	○ ☾° a.
3	34.3	24.4	92	63	6	5	------	○ a. ☐☾ p.
4	34	22.1	91	60	7	4	------	☊ a. ☐☾ p.
5	33.3	23	93	74	1	6	1.3	p ☐☾ a. d° ⊤° p.
6	33.6	22.3	93	63	2	9	67.3	☊ ○ a. ●² ☾ p.
7	31.4	21.3	90	71	10	9	------	● a. ☐☾ p.
8	33.1	22	92	72	2	9	------	☊ a. ☐☾ p.
9	32.9	20.8	90	73	5	8	------	☊ ☐☾ a.
10	33.6	21.1	93	72	8	5	------	☊ ○ a. ☐☾ p.
11	33.5	22.7	91	65	1	6	------	☊° a. ☐☾ a. p.
12	33.1	22.8	93	72	6	7	------	☊ a. ☐☾ p.
13	32.8	22.7	91	74	7	9	------	☊ ☐☾ a.
14	33.4	22.9	92	62	7	8	7.3	☊° a. ☾ ●² p.
15	32.8	21.6	87	68	7	9	1.5	○ a. ●° p.
16	33.6	25.1	82	63	10	10	------	◠ a. ☾ p.
17	31.2	22.7	90	77	10	9	16.5	●² a.
18	33.4	23.4	92	59	10	6	32.8	☊° a. ● p.
19	34	21.6	90	63	10	9	8.4	● a. p. ☾ p.
20	32.7	21.9	88	52	10	9	------	☾ p.
21	33.7	22.7	93	76	6	8	------	☽° a. ☐☾ ◡° p.
22	33.9	22.5	89	58	7	7	------	◠ a. ☐☾ ◡ p.
23	33	22.4	92	67	5	4	------	☊° a. ☐☾ a. p.
24	33.4	21.9	91	68	1	2	------	☊° a. ☐☾ p.
25	33.2	22.4	94	62	3	6	------	☊° a. ☐☾ a. p.
26	32.3	22.1	92	74	3	8	9.9	●° a. p.
27	32.5	22.1	92	65	10	7	1.5	d a.
28	33.5	23.3	95	86	9	10	15.3	≡° ☊° p² a. ● ◡° p.
29	32.8	21.7	92	75	3	8	.3	☐☾ a. ●° p.
30	34.1	22.4	93	67	9	4	------	◠² ○ a. ∞° p.
Mean	33.2	22.5	91	67.7	6.4	7.2	------	
Total	------	------	------	------	------	------	162.1	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.3	22.1	96	75	1	10	------	☊ a.
2	32.2	22.1	96	75	10	10	------	☊ a.
3	32.6	23.1	95	65	1	3	------	☊ a.
4	31.6	22.1	95	68	1	9	------	☊ a.
5	33.2	21.6	96	64	0	8	------	☊ a. ⊤ p.
6	31.8	20.8	96	76	2	9	13.7	☊ a. ⊤ p.
7	29	23.1	91	81	10	10	2	● a.
8	32.2	22.6	96	72	9	4	------	d a.
9	31.6	21.4	96	70	1	6	------	☊ a.
10	30.6	22.6	100	75	3	7	------	☊ a.
11	33.4	21.4	100	73	4	6	------	☊ a.
12	32.6	22.5	94	76	9	5	.8	☊ ●° a.
13	32.2	22.1	96	69	4	5	------	☊ a.
14	32.4	23.1	96	74	10	10	11.7	☊° a. ● p.
15	31.6	23.1	90	73	10	6	------	p a. ⊤ p.
16	32.1	22.1	84	71	4	10	4.6	⊤ ☊ a.
17	29.1	23.3	98	86	10	10	29.7	● ☾ a. d p.
18	31.6	22.1	98	78	10	10	5.3	●° a. p.
19	31.6	23.1	91	76	10	9	14.7	● a.
20	30.1	22.5	97	83	10	10	------	●² a.
21	32.6	22.5	97	75	9	10	------	⊤° a.
22	32.8	22.4	97	78	6	9	------	☊ a.
23	31.8	21.9	97	75	1	5	------	☊ a.
24	31.6	23.3	96	74	9	5	.8	☊ ◠ d° a.
25	31.8	22.6	91	81	9	10	1	p a. p.
26	32	22.1	97	88	1	10	.5	☊ a. p p.
27	32.1	22.1	96	63	3	4	19.8	☊ ● a.
28	32	22	96	75	1	7	------	☊ a. ◠ p.
29	32.6	22.1	96	75	3	4	------	☊ a.
30	30.8	22.3	97	81	1	6	------	☊ a. ⊤ ◠ p.
Mean	31.8	22.3	95.4	74.8	5.4	7.6	------	
Total	------	------	------	------	------	------	104.6	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.4	24.7	90	73	8	9	------	
2	30.2	24.6	91	79	10	10	------	
3	30.7	24	86	76	6	4	------	
4	31.8	23.5	85	69	8	7	------	
5	31	23.4	81	78	2	8	------	☐☾ p.
6	29.5	23.1	83	92	10	10	6.1	● p.
7	27.4	22	95	64	10	10	------	● a.
8	29.9	22.2	88	62	7	3	------	p° p.
9	30.1	22.7	88	74	9	2	.8	
10	29.6	25.3	88	77	8	8	------	●° a.
11	30.2	23	93	74	9	7	------	
12	30	24	89	78	10	7	16.5	● p.
13	29.5	24	89	79	6	10	------	
14	29.5	26	89	78	10	8	6.4	
15	29.2	23.4	97	76	10	9	14.2	● a. p.
16	------	------	87	----	10	----	------	
17	------	------	----	----	----	----	------	
18	------	------	----	72	----	10	------	
19	------	------	----	75	----	10	23.4	d a.
20	28.1	------	88	74	10	10	------	●² a.
21	30.5	23.9	91	78	4	10	------	
22	31.5	23.2	91	72	7	6	------	
23	29.6	22.9	85	74	5	7	------	
24	29.9	22.9	86	81	5	8	------	
25	29.2	23.9	87	82	7	9	------	p° d p.
26	29.9	22.7	87	73	4	3	7.6	● p.
27	29	22.8	96	80	7	7	4.8	● a.
28	30.6	23.4	91	82	7	7	------	
29	30.3	23.2	92	74	8	7	------	
30	31.6	23.4	91	67	9	5	------	d p.
Mean	30	23.5	89	75.5	7.6	7.5	------	
Total	------	------	------	------	------	------	79.8[a]	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	21.8	96	64	5	6	------	
2	31.7	21.8	96	72	6	5	6.4	● p.
3	31.9	22.3	96	65	7	6	6.6	● p.
4	31.6	21.4	92	73	8	6	------	
5	32.2	22.9	91	78	6	9	54.6	●² ⊤² ☾ p.
6	26.5	20.5	96	83	9	9	------	
7	31.4	22	96	73	6	6	------	
8	31.6	20.8	96	68	5	6	------	
9	31.7	21.9	96	72	5	5	------	
10	30.2	23	96	72	9	7	------	
11	31.8	21.9	96	64	6	7	------	
12	31.7	21	96	64	5	6	------	
13	31.7	21.9	96	64	5	6	------	
14	32.2	22.3	96	75	5	7	------	d p.
15	30.2	23.9	88	72	7	7	------	
16	30.8	23.2	90	66	6	5	8.1	● ⊤ ☾ p.
17	31.1	21.8	96	71	5	5	------	
18	31.9	22.2	96	66	8	6	------	
19	32.9	22.5	96	65	9	8	------	⊤ p.
20	31.3	21.9	96	70	5	5	------	
21	31.9	22.1	96	61	6	5	------	
22	32.2	21.5	95	68	5	6	------	
23	30.7	22.9	94	68	5	6	6.4	⊤ ●° p.
24	32.3	21.8	96	72	5	5	9.7	●° ⊤ ☐☾ p.
25	30.7	21.9	96	90	8	8	6.1	●° p.
26	30.9	21.8	96	70	5	5	7.1	● ⊤ ☐☾ p.
27	31.3	22.1	98	78	7	8	9.9	● ⊤ ☐☾ p.
28	31.7	22.9	96	75	5	7	15.7	● ⊤ ☐☾ p.
29	30.7	21.2	96	73	5	6	20.8	● ⊤ ☐☾ p.
30	30.7	21.9	96	73	5	6	19.6	● ⊤ ☐☾ p.
Mean	31.3	22	95.2	70.8	6.1	6.3	------	
Total	------	------	------	------	------	------	171	

[a] 28 days of observation.

Meteorological data for third and fourth class stations—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	23	92	68	8	9	------	☊ ◠ a. ⊤ p.
2	32.1	23	93	69	9	8	2.5	⊤ a. ☾ p.
3	31.5	21.8	96	68	9	8	------	●° a.
4	33.2	21.8	95	60	5	9	------	☊² a.
5	33.1	22.3	96	65	9	8	------	☊ a. d° p.
6	29.6	22	93	72	9	9	1.8	●° a. ☾ p.
7	29.5	24	79	73	10	9	.3	d p.
8	31.5	22.3	95	63	7	6	------	☊ a. ☾ p.
9	31.6	21.9	91	65	5	5	------	☊ a.
10	31.4	23.1	92	69	7	8	2	☊ a. ☐ p.
11	31.7	23.6	92	69	9	7	------	●° a.
12	31.5	23	91	69	8	8	2.8	☊ ●° ◠ a. ⊤ p.
13	32	22.3	91	68	9	10	5.8	☊ a. ☾ p.
14	31.2	23.5	92	69	9	7	81.3	● a. ☾ p.
15	30.5	22.6	96	78	10	8	8.9	●² a. ● p.
16	30.4	23.4	93	86	10	10	16.5	● p.
17	30.5	22.7	96	69	9	8	8.3	● a. p.
18	31	21.8	95	66	9	8	------	
19	29	23.2	91	92	10	10	8.4	● p.
20	30	23.3	95	72	10	8	1	●° a. ☋° ☿° p.
21	31.2	22.4	96	68	10	7	------	☊ ≡° a. ☋° ☿° p.
22	32	21.8	96	63	9	7	------	☊ a
23	33	22.1	90	57	6	5	21.6	☊ a. ⊤ ● p.
24	32.5	22.7	95	62	8	7	------	☋° p.
25	30	23.6	92	71	9	8	11	● a.
26	31	23.5	96	70	10	7	2	● a. ☿° ☋ p.
27	30.5	22.8	95	77	9	8	5.1	≡° d ⊤ a.
28	32.3	22.3	93	65	9	7	.5	● a.
29	31	23	93	69	9	6	13	d a. ☾ ● p.
30	32.1	23.5	92	66	8	5	------	
Mean	31.3	22.7	93.1	69.3	8.6	7.7	------	
Total	------	------	------	------	------	------	192.8	

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	23.4	88	53	9	10	------	
2	33.9	23.5	87	56	4	9	------	☐ a. p. ☾ p.
3	35.1	23.2	89	56	6	8	------	☾ p.
4	34.9	22.1	76	45	8	6	------	☾ p.
5	32.5	23.8	82	73	8	8	0.8	☾ p.
6	26.9	23.5	93	85	10	10	60.4	☐ ●² a.
7	27.6	22.6	98	88	10	10	8.6	●² a.
8	31.1	21.7	94	65	5	6	9.1	● p.
9	31.6	21.6	91	62	6	4	18	☾ ● ☐ p.
10	32.2	22.1	95	63	4	6	------	⊤ ☾ p.
11	31.5	22.6	89	68	6	5	------	⊕ a. ☾ ☐ p.
12	32.6	23	89	65	7	8	.5	⊤ ☾ ●° p.
13	32	23	91	66	7	8	------	
14	31.9	23.2	88	66	9	8	------	d° p.
15	31.5	24.1	87	60	8	9	2.5	
16	30.6	23.8	94	73	9	9	------	●° a. d° ☾° p.
17	31.9	22.6	94	72	7	10	10.4	● ⊤ p.
18	32.5	22.9	91	58	7	8	------	☐ ☾² ☋² p.
19	32.1	23.8	91	75	9	10	19.3	⊤ ● p.
20	31.6	22.9	96	65	9	9	------	⊤ p.
21	31	23.5	90	69	9	9	------	☋° p.
22	32.6	22.2	85	40	5	4	------	☐² ☋° p.
23	32.4	23	91	63	3	7	1	☾° ☐ ●° p.
24	30.8	23.7	92	90	9	10	9.1	d° a. ● ☐ ☋° p.
25	30.9	23.7	94	70	9	8	21.8	⊤ ● ◠ ☐ p.
26	30.9	22.9	96	85	8	10	11.1	● ☐ p.
27	31.3	22.3	94	80	6	7	------	d° ☾ p.
28	32.1	23	89	71	5	7	------	☾ ☐ p.
29	30.1	22.5	91	81	3	10	4.6	●° ☾ p.
30	33.2	23	87	67	4	5	9.4	☾° ☐ ● p.
Mean	31.7	23	90.4	67.7	7	7.9	------	
Total	------	------	------	------	------	------	186.6	

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.2	24.9	90	75	7	7	8.9	☾ a. ● p.
2	32.3	22.9	96	67	8	9	------	☾² ☄° a. ☐ d p.
3	33.2	24.3	92	78	9	9	------	
4	34.5	23.3	93	63	10	7	------	☌ a.
5	34.7	23	95	60	7	5	------	☊ a. ☾ d p.
6	30.9	25	96	90	9	9	60.7	●° a. ⊤ ●² p.
7	27.1	23.7	97	85	7	10	18.2	●° ⊤ a. ● p.
8	32.9	22.5	95	72	8	4	------	d° a.
9	33.4	22.2	94	73	4	5	------	☊ ☌ ☾ a.
10	32.1	22.6	96	76	6	7	------	☊ a. ☾ ☾ p.
11	33.3	23.1	95	70	8	6	------	☾² a. ☾ a. p.
12	33.4	23	97	72	7	5	------	☊ ☌ a. ☾² p.
13	30.3	23.9	91	67	8	9	12.2	⊤ ●° a. ☾² p.
14	30.1	23.3	97	74	10	8	1.3	● ⊤ a. p ☾ p.
15	30.4	24.2	93	80	9	10	24.9	p² a. p.
16	30.5	23.1	97	77	9	8	------	●² a. d ☾ p.
17	31.2	23.2	96	74	7	8	------	☊ ☌ a. ☄° d p.
18	32.2	23.6	87	68	9	7	------	☊° a. ☾ ☾ d p.
19	31.2	23.7	90	72	6	7	5.1	☊ a. ☄° p.
20	30.8	23.8	95	84	9	7	3	☊ d p a. ●° p.
21	33.5	23.1	97	75	8	5	1.3	☊ ☌ a. ☾ p p.
22	32.1	23.9	96	78	9	7	------	d a. ☾ p.
23	34.2	22.7	97	75	6	7	------	☊ ≡° ☾² a.
24	34.1	23.5	97	72	4	6	------	☊ ≡° ☾ a.
25	33.8	24.4	94	73	7	6	------	☊ ☾ d a.
26	34.1	23.7	96	71	8	5	------	☊ ☌ a.
27	30.2	23.2	95	88	5	6	22.9	☊ ≡° a. ☐ ●² p.
28	32.8	23	98	79	7	9	------	☊ ≡ a. ☾ p.
29	30.9	23.4	94	73	4	8	11.7	☊ ≡° ☄° ● a.
30	34.3	23	97	72	3	7	------	☊² ≡° a. ⊤ ☾ p.
Mean	32.3	23.4	94.8	74.4	7.3	7.1	------	
Total	------	------	------	------	------	------	170.2	

BUTUAN.

[ϕ=8° 56′ N: λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.6	24.3	92	59	8	9	------	☊ a. ☾² p.
2	31.7	24.1	89	49	7	7	------	p ☊ a. ☾ p.
3	31.5	23.8	89	53	9	5	------	☊ ☾ a. ☾ p.
4	33.5	23.9	90	56	7	7	------	☊ a. ⊤ d° ☾ p.
5	31.1	24.4	89	63	10	7	------	☊ ⊤ a. ●° ☾ p.
6	25.5	23.6	92	90	7	10	44.2	☊ ⊤ a. ● a. p.
7	26.7	23	94	81	10	9	3.5	● a. p. ☾ p.
8	30	22.6	96	66	4	4	------	☊ ≡° a. ☾ p.
9	30.5	24.3	94	61	9	1	------	☊ a. ☾ p.
10	30.7	22.6	95	61	7	7	------	☊ a. ☾ a. p.
11	31	23.4	94	60	2	4	------	☊ ☾ a.
12	31.8	24.1	94	56	9	6	------	☊ ☾² a. ☾ p.
13	30.7	24.4	91	69	9	10	------	☊ ☾² a.
14	30.6	24.1	82	66	10	7	------	d a. p. ☾² p.
15	32	24.3	88	67	10	8	.5	☊ ☾² a. ● p.
16	31	24.5	92	65	10	8	.3	☊ a. ● ☾ p.
17	31.2	23.9	92	65	9	7	------	☊ a. ☾ p.
18	31.7	23.4	91	54	7	7	------	☊ a. ☄ a. p.
19	32	24	91	59	6	8	------	☄° a. p. ⊤ ☾ ☋ p.
20	31.5	24.6	89	70	8	7	------	☊ a. ⊤ ☾ ☋ p.
21	30.1	24.1	92	68	9	7	------	☊ a. ☾ ☋ ☾ p.
22	31.1	23.1	94	72	7	7	------	☊ a. ⊤ ☾ ☋ p.
23	31	23	91	58	4	5	------	☊ a. ⊕° ☾ ☾ p.
24	29.5	24.1	92	76	9	9	31.5	● a. p. ☾ ⊤ p.
25	28.6	23.7	96	78	10	6	9.2	● a. p. ⊤ p.
26	30	23.5	96	69	9	7	------	☾ ⊤ ☾ d° p.
27	31.6	24	94	76	7	7	------	☊ a. ⊤ a. p. ☾ d p.
28	31	24.5	92	62	7	7	------	☊ ☌ ⊤ a.
29	30.3	23.7	92	69	7	7	------	☊ a.
30	31.7	24.4	88	64	7	1	------	☊ a. ☾ p.
Mean	30.7	23.8	91.7	65.4	7.8	6.7	------	
Total	------	------	------	------	------	------	89.2	

Meteorological data for third and fourth class stations—Continued.

DUMAGUETE.

[ϕ=9° 18′ N; λ=123° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.6	26.5	79	60	10	9	3	○ p.
2	33.6	23.2	88	60	10	8	------	●° ⌐↯° a. ↘ p.
3	33.5	24.1	74	53	10	9	------	d a.
4	33.8	24	83	53	9	9	------	
5	32.4	24.2	75	75	8	10	------	☊ a. d p.
6	30.1	25	80	76	10	10	80	↘ ●² p.
7	26.5	22.1	93	88	10	10	9.4	● a. p. ∞ p.
8	32	22.5	90	76	7	7	.8	●° a.
9	33.1	23.8?	87	71	9	5	------	☊ a. ↘° p.
10	32.4	22.8	90	74	9	10	------	☊ a. ↘ p.
11	32.1	21.5	89	71	4	10	------	☊² a. ↯° d° p.
12	33.8	23	93	57	8	10	------	☊² a. d ↘ p.
13	31.1	24.2	88	66	9	10	8.5	↯ ●° a. p. ○ p.
14	29.3	23.4	79	82	10	10	8.9	↘ ●° a. p.
15	28.2	24	95	80	10	10	12	●° a. p.
16	30.3	23.4	76	64	10	10	10.7	d a. ● ↘ p.
17	32.2	23.2	71	61	10	10	------	d a. p.
18	31.4	23.7	90	74	8	10	1.3	☊° a. ●° p.
19	31.4	23.7	93	75	7	10	8.9	☊ a. ●° p.
20	28.2	23.2	92	80	10	10	------	d a. p.
21	32	24.4	80	62	10	9	------	☊ a.
22	32.7	22.4	89	69	9	9	------	☊ a. ☋ p.
23	31.1	23.6	84	92	9	10	17.2	☊ a. ●² ⊤ ↘ p.
24	31.6	22.6	91	74	7	9	------	☊ a. ↘² p.
25	31	23	94	77	7	9	------	☊ a. ●° p.
26	31.5	22.6	94	71	9	9	------	☊ a. ○° p.
27	33.2	23	94	54	9	7	------	d° ☊ ○ a.
28	30.6	24.1	76	71	8	10	5.1	↘° ☊ ●° a. ↘ p.
29	32.5	22.5	90	68	5	7	------	☊ d a.
30	34.4	22.1	86	59	7	7	------	☊ a.
Mean	31.7	23.4	86.1	69.8	8.6	9.1	------	
Total	------	------	------	------	------	------	165.8	

YAP (WESTERN CAROLINES).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.8	22.8	88	82	10	10	44.9	⊤ d² a. ●² p.
2	28.6	22.7	99	87	10	10	33.3	●² a. d² p.
3	29.5	22.4	93	81	10	10	51	● a. ⊤° p.
4	30.8	22.9	98	92	10	10	16.2	●² ⌐↯° ☋° a. ⊤° ● p.
5	31.6	24.2	87	80	10	6	.5	d° a. ⊕ ⌐↯ ⌒° ●° p.
6	31.8	24.5	87	76	7	9	1.5	d° a. ●° p.
7	32.1	25.5	86	72	6	9	------	●° a. d° p.
8	30.6	24.1	87	78	2	10	1	⊤° a. d a. p.
9	31.7	25.7	85	72	6	10	25.4	○° a. ●° ↘ p.
10	28.8	22	90	85	10	10	6.6	● a. d p.
11	29.2	23	84	92	10	10	24.4	●° a. ⌐↯ p.
12	30.7	22.5	93	77	10	10	16.5	⌐↯° a. p. ● ⌒ ○° p.
13	31.7	24.5	81	74	10	10	------	○° ↘ p.
14	31.7	26.6	83	75	8	10	1.8	●° ↘ p.
15	32.3	24.5	90	75	10	10	------	●° a.
16	30.1	25	91	80	10	10	------	
17	29.4	22.5	93	95	10	10	12.7	● a. ⊕° ↙° p.
18	30	20.8	83	81	10	10	5.6	● ↙° ○° ☋° ↘°
19	32.8	24.9	83	74	10	10	24.4	⌐↯° a. ↙° ●° ⌣ ⌐↯ p.
20	31.8	22.9	90	76	10	8	11.7	● ⌐↯° a. d² p.
21	33.2	22.7	92	73	8	10	------	☋ p.
22	32.4	23.9	92	76	10	10	6.4	● ⌣ ↘ ⌐↯° p.
23	31.1	23.3	85	86	10	10	23.1	↘° a. ● a. p.
24	31.5	23.9	95	68	10	10	4.1	●° a. p. ☋ p.
25	33	24.7	89	78	10	10	2.6	●° a. p. ☋° p.
26	33.2	24.4	88	66	4	8	------	
27	33.1	25.2	86	68	3	5	------	☊ p° a.
28	33.5	25.5	86	69	4	9	2	☊° a. ●° ⌒ ⌣° p.
29	32.2	23.3	96	71	10	10	.6	d° a. p ⌒² ⊤° p.
30	31.9	24.5	88	79	10	10	11.9	d° a. ● p.
Mean	31.4	23.8	88.9	77.9	8.6	9.5	------	
Total	------	------	------	------	------	------	328.2	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.4	24	87	76	10	10	------	↙° d.a.
2	30	24	87	79	10	10	------	
3	30.1	23.8	87	81	10	10	------	
4	31	24.4	93	79	10	8	------	
5	31	24.4	95	84	10	10	------	⊤² ≡° a. d a. p.
6	30	23.6	93	88	10	10	84.8	d a. ●² ⌐↯² p.
7	31.5	22.5	93	90	10	10	92.2	●² a. p. ↙° a.
8	31	22.5	95	73	10	8	------	
9	31	22.5	90	79	10	10	------	↘² d p.
10	31.2	22.5	87	83	10	10	------	↘² d p.
11	31	22.6	90	81	8	10	10.9	d a. ⊤ ↙° ● p.
12	31.1	24.2	88	86	10	10	------	
13	31	23.9	90	85	10	10	------	d a.
14	30.9	23.8	92	86	10	10	14.2	● a. d ↙° ↘² p.
15	31.1	23.7	90	91	10	10	22.6	d a.
16	29.4	23.6	88	85	10	10	------	● ↙° ↘ a.
17	29.5?	24.5	95	79	10	10	------	☋ p.
18	29	24.6	91	88	10	10	------	
19	29	24.1	92	87	10	10	20.3	⊤² ● a. ⌐↯ ☋ ☋ p.
20	29.2	23.6	92	87	10	10	------	
21	30.4	23.7	90	86	10	10	7.9	⊤² ● ↘ p.
22	30.4	23.3	88	83	10	10	------	☋ ↘ p.
23	32.5	21.5	93	79	10	10	------	⌐↯² ☋ p.
24	32.4	23.8	88	83	10	10	10.7	⊤² ● ↘ ☋ ☋
25	30.5	23.5	96	91	10	10	46.7	⌐↯ ● p.
26	30.6	22.4	93	87	10	10	5.3	● ⊤² a. ⌐↯ d ☋ p.
27	30.6	22.8	87	88	10	10	------	☋² ↘ p.
28	30.5	22.9	84	85	10	10	------	
29	30.6	22.4	93	84	5	10	14	● a. d ↘ ☋ p.
30	30.2	24.6	93	83	10	10	30.7	↘ ↙° ● ⊤ a.
Mean	30.6	23.5	90.7	83.9	9.8	9.9	------	
Total	------	------	------	------	------	------	360.3	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.3	26	85	84	10	10	15.7	d a. p. ○ ↘ ● p.
2	30.2	22.5	96	81	10	10	4.3	○ ↘ ● p.
3	30.4	23.6	84	81	10	10	42.7	● a. ●² d. ↘ ⌐↯ p.
4	29.3	23.4	94	84	10	10	6.4	● a. p. ○ ↘ p.
5	30.7	23.4	95	75	6	7	------	⊤ a. d a. p.
6	31.7	22.9	91	71	9	9	13.5	☊² a. d ●² p.
7	25.3	22	97	93	10	10	84.6	⊤ a. ●² a. p. ○ p.
8	30.4	22.5	94	79	10	9	4.3	●² a. p. d p.
9	30.9	22.5	95	78	10	5	4.3	● a. p.
10	31.3	22.6	97	66	1	10	9.9	d² ↘ ● p.
11	30.9	22.6	92	79	10	10	9.4	↘ ● ⌐↯ p.
12	31.8	23.4	96	81	10	10	2.5	d² a. p. ⊤ ↘ p.
13	29.4	23.6	96	92	10	10	23.1	⊤ a. ● a. p. ↘ p.
14	31.8	23.7	92	79	10	10	21.6	● a. p. ↘ p.
15	30.8	23.4	95	81	10	10	24.6	○²· ● ↘ p.
16	28.7	24.1	94	89	10	10	58.9	●² a. p. ○ p.
17	30.8	23.6	88	81	10	10	.8	d a. ●° p.
18	31.2	24.2	91	81	10	10	1.8	d ● a.
19	30.4	24.1	95	83	7	10	.6	⌒ a. ●° a. p. ○ p.
20	30.8	23.9	93	96	10	10	48	d² a. ● a. p. ⊤ p.
21	29.8	23.4	96	94	10	10	12.7	⊤ a. ● a. p. ↘ p.
22	29.7	22.7	93	76	7	9	1.5	● a.
23	31.7	23.4	94	76	6	10	------	↘ ☋ p.
24	30.8	22.3	92	87	8	10	------	☊² a. ⊤ d ↘ p.
25	30.8	22	95	82	7	10	16.5	☊² a. ⊤ ● ⌐↯ ↘ p.
26	30.9	22	96	78	6	4	6.4	☋ ● p.
27	29.8	24	92	81	10	10	5.1	d a. p. ● p.
28	29.3	25	90	87	10	9	1	⊕ d ● p.
29	28.4	24	92	86	10	10	6.9	● a. p.
30	30.3	23.4	95	86	10	10	1.5	●° a. p.
Mean	30.3	23.3	93.2	82.2	9.2	9.4	------	
Total	------	------	------	------	------	------	428.6	

Meteorological data for third and fourth class stations—Continued.

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.6	25.8	90	83	10	10	15.2	● ☾ ☿° p.
2	31.6	24.5	92	81	10	10	------	☾ p.
3	32.7	26.7	88	76	10	9	10.8	☾ ● p.
4	31.3	24.4	91	83	9	10	21.6	● a. p. ☾ p.
5	30.2	23.4	94	85	10	10	19.5	☿ a. ● p.
6	30.4	24.1	93	75	10	9	42.9	p a. ● p.
7	27.5	22.7	97	90	10	10	80.3	●² a. p. ☿ p.
8	29.6	23.8	93	80	10	9	------	d a.
9	31.7	24	95	73	8	8	------	
10	31.5	25.1	87	72	8	7	13.8	☾ d ☿ p.
11	31.6	23.1	97	78	9	9	20.1	☾ ● a.
12	31.2	24.3	96	82	10	9	2.3	● a. ☿ ●° p.
13	31.9	25.8	83	73	9	9	1.3	●° a. p.
14	31.4	25.1	88	77	9	9	18.8	● p.
15	30.5	24.4	90	82	10	10	2	●° p.
16	30.1	26.1	84	86	9	10	5.8	d° a. ● ☿° p.
17	29	25	92	79	10	10	5.8	
18	31.2	23.7	92	79	10	10	------	● a. ☋² p.
19	31.4	24.4	94	82	8	8	------	☋ ☋ p.
20	28.6	25.9	88	85	9	10	30.1	● a. p.
21	31.1	23.3	97	77	10	9	3.6	
22	30.6	23.6	97	77	9	9	------	● a.
23	31.9	25.5	93	72	9	9	------	☋ p.
24	29.3	24	94	90	10	10	8.1	● a. p.
25	29	23.4	98	85	10	10	25.1	● a. ☾ p.
26	30.7	23	95	78	8	8	8.3	● a.
27	------	24.6	96	77	9	9	------	● a. d p.
28	31.3	23	95	78	9	9	.9	●° p.
29	29.5	25.4	92	89	9	10	------	d a. p.
30	30.9	24.8	93	82	9	9	------	☿ a. ○ ☾ d p.
Mean	30.6	24.4	92.5	80.2	9.3	9.3	------	
Total	------	------	------	------	------	------	336.3	

GUIUAN.

[ϕ=11° 03′ N; λ=125° 43′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.6	27.8	78	83	9	8	------	☿° a. ☌ ☾ p.
2	29.3	25.2	88	79	10	10	------	●° a. ☌ p.
3	29.4	27	88	80	9	9	------	○² a. ☌ p.
4	33.3	27.1	90	76	8	9	------	
5	29.9	23.8	91	88	9	8	14.5	☿ ☾ a. ☾ ● p.
6	27.5	23.2	98	93	9	10	91.5	●² ☿ a. p. ☾ p.
7	26.7	23.1	96	97	10	10	35.6	●² a. p.
8	30.1	23.8	85	78	5	3	------	☿° ☾² p.
9	31.3	27	84	70	1	1	------	
10	30.1	22.4	98	75	8	8	------	☊² a. ☾° p.
11	31.2	23.6	86	69	7	2	------	⊕ ☾° p.
12	30.9	26.9	95	73	8	9	------	○² a. p. ☿² ☾ p.
13	30.4	27.2	84	71	10	7	------	○² ☿° ☾ p.
14	30.7	27.2	83	75	10	9	------	☿° p.
15	29.1	26.4	81	84	10	9	------	●° a. ☿° a. p. ☾² p.
16	29.8	26	87	85	10	9	------	☿° ○² a. p. ☾° p.
17	29.7	26.8	87	83	9	6	------	
18	31.8	26.8	82	73	3	6	------	○ ☋² ☾° p.
19	30.5	27	83	73	10	9	------	○² a. p. ☋² p.
20	31.2	27.1	78	79	9	4	------	○² a. ☋² p.
21	30.5	27.2	81	79	10	9	------	☾ ☋² p.
22	31.2	27.3	88	78	10	8	------	○² a. ⊕ ☋ p.
23	31.8	23.5	90	87	4	9	17.2	● ☿² a. p.
24	31.6	22.4	99	77	8	8	11.7	☊² a. ⊕² ☋² p.
25	31.8	22.6	97	78	4	6	------	● a. ○² p.
26	30.2	26.6	87	80	10	9	------	☋² ☾² ☾ ☿² p.
27	29.9	25.6	80	80	9	6	------	☋ p.
28	30.3	26.6	84	79	8	7	------	○² a. p. ☾² p.
29	31.2	27.3	79	77	1	1	------	☾ p.
30	31	27.4	81	77	4	1	------	☾ p.
Mean	30.5	25.7	86.6	79.2	7.7	7	------	
Total	------	------	------	------	------	------	170.5	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	24.7	85	55	6	8	0.5	
2	30.6	23.7	95	63	8	8	------	●° a.
3	34.5	22.6	97	60	6	8	------	☊ a.
4	34.8	23.2	94	75	7	7	------	☊ a.
5	30.6	23.6	94	77	8	7	6.6	☊ a. ●° p.
6	29.3	23.1	95	82	5	9	163.9	● ☿ a. ●² ☾² p.
7	27.5	22	97	97	10	10	47.8	●² a. p. ☿° p.
8	33.4	21.3	98	58	4	5	------	
9	34.3	22.1	96	50	1	5	------	☊ a.
10	34.4	22.2	97	51	4	6	------	☊ a. ☾ p.
11	34	23.4	87	52	5	5	------	☊ a. ☾ p.
12	33.2	25.5	81	57	8	7	------	d° a. p.
13	32.4	25.5	79	59	8	6	------	d ☾ p.
14	31.4	26.6	78	62	9	8	------	☾ p.
15	32.5	26.6	73	72	8	8	.3	●° ☾² ☿° p.
16	31.7	25.9	78	66	7	8	------	d° ☾ p.
17	33.2	23.2	93	58	4	7	2.5	d a. ●° ☋² p.
18	34.2	23.2	98	55	3	7	------	☰ a.
19	32.7	25.4	86	61	7	8	------	☊ a. ☋ ☾ p.
20	33.1	23.4	95	68	6	7	3	☊ a. ●° ☿ ☋° ☾ p.
21	33	23	96	59	8	7	------	☰° ☊ a. ☾ p.
22	34.2	24.7	93	54	7	6	------	☊ ⊕° a. ☾ ☋° p.
23	33	23.6	95	98	7	10	30.7	☊ a. ● ☿² ☾ p.
24	31.2	22.5	97	67	7	7	------	☰ ○ a. ☋ ☾ p.
25	33	23	97	68	4	6	.3	☿ ☾ ☋² p.
26	32.4	23.7	88	66	9	8	1.3	p ●° a. ☋² ☾ d p.
27	33	24	90	55	7	6	------	○ ☋ ☾ p.
28	34.2	22.8	97	55	4	5	------	☰° ☊ a. ☿ ☾ ☋° p.
29	34	22.8	96	59	3	6	------	☰° ☊ a.
30	34.7	23	94	50	7	6	1.5	☊ a. ☾ p.
Mean	32.8	23.7	91.3	63.6	6.2	7	------	
Total	------	------	------	------	------	------	258.4	

MASBATE.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28	26	91	82	10	10	10.9	
2	29	24.5	91	88	10	10	.5	
3	30	26	86	85	9	10	.6	
4	31	25.2	91	74	9	7	------	
5	31.6	24.5	95	75	7	8	------	
6	30.5	25	92	81	7	9	51.3	
7	24.4	21	92	94	10	10	49.3	
8	30.5	23.6	96	71	9	9	------	
9	30.2	25	96	70	9	8	------	
10	30	26	88	71	8	8	------	
11	30.2	26	92	79	8	7	------	
12	30	27	89	81	8	8	------	
13	29.6	27	94	87	10	10	------	
14	29	27	92	89	10	10	------	
15	29.5	26.6	92	88	10	10	2.5	
16	29.5	25.6	97	85	10	9	2.6	
17	30.6	25.5	95	75	9	8	------	
18	30.2	26.2	98	83	8	5	------	
19	29.6	26.6	96	81	8	10	------	
20	30.2	26.5	95	85	8	7	1.5	
21	31	25.6	90	77	9	7	------	
22	31	26	96	76	7	7	------	
23	29.6	26.5	92	85	10	9	------	
24	29.5	25.5	98	84	8	9	------	
25	31	25.5	98	82	8	6	------	
26	29.5	25.5	92	85	9	8	12.5	
27	30.2	25	93	84	8	9	------	
28	30.5	27	90	80	7	6	17.5	
29	30	25.2	88	74	9	9	------	
30	31.4	25.6	95	71	7	9	------	
Mean	29.9	25.6	93	80.7	8.6	8.4	------	
Total	------	------	------	------	------	------	149.2	

Meteorological data for third and fourth class stations—Continued.

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.4	24.3	85	92	10	10	62.8	●[2] a. p.
2	28.1	23	89	93	10	10	34.3	⊤ a ● a. p.
3	30.8	23.6	88	80	7	9	40.4	● a. p.
4	33.2	23.5	88	67	10	9	6.9	d° a. ● p.
5	33.6	23.3	92	77	10	9	.5	● a. p.
6	33.1	23.3	95	64	3	9	35.1	d ⊤ p.
7	28.9	22.5	97	87	8	10	32	● a. p. d p.
8	30.6	23	97	80	10	5	16	● a.
9	33.2	23.7	84	67	5	6	------	
10	34.3	24	81	64	2	3	------	
11	32.5	25.1	83	71	3	9	------	
12	34.1	25.4	80	64	10	3	------	
13	33.1	24.9	83	71	10	9	.3	d p.
14	31.3	25.1	82	71	10	10	------	
15	32.7	25.7	83	76	10	10	1.3	d p.
16	33.5	24.9	81	78	10	10	4.6	d a. p.
17	29.7	23.8	90	77	10	10	.3	d a. p.
18	32.4	25.1	86	72	8	8	------	
19	30.4	25	84	79	8	10	11.2	d° a. ● ☋° p.
20	34.2	23.8	88	69	10	5	------	
21	31.3	24.7	83	78	10	9	------	d° p.
22	33.6	25.2	89	65	5	4	------	d° p.
23	34.3	24.2	93	71	9	9	8.6	◜◝° p.
24	32.7	23.4	96	73	9	9	14.2	◠ a. ● a. p.
25	31.5	24.1	97	79	9	9	10.2	● a. p.
26	32.8	23.2	97	71	9	9	------	d° a. ☋ p.
27	34.6	24.9	82	72	10	8	------	
28	32	25	86	77	8	8	11.9	d° a. ● p.
29	30.6	23.8	92	76	10	10	.8	d a. p.
30	30.3	25.2	88	86	8	10	1.8	d a. p.
Mean	32.1	24.2	88	74.9	8.4	8.3	------	
Total	------	------	------	------	------	------	293.2	

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.8	25.1	88	76	10	10	16.3	●° a. p p.
2	30.7	23.6	94	68	10	9	3	● a. p. ↙° ≤ p.
3	------	23.1	92	65	10	9	------	≤ p.
4	------	25.4	91	58	10	10	------	≤° p.
5	35.3	24.1	96	69	8	8	------	⊤ p.
6	34.7	23.5	97	81	6	10	39.6	◜◝ ● a. p. ↙° p.
7	32.8	21.2	96	97	10	10	49.6	◜◝ a. ● a. p.
8	35.8	23.3	92	60	3	7	------	≤ p.
9	34	23.6	92	60	1	5	------	
10	33.4	23	92	63	3	4	------	≤ p.
11	33.4	24.4	92	66	9	8	------	
12	32.3	24.7	86	70	10	9	6.4	● a.
13	32.2	26	85	68	10	10	------	≤ p.
14	30.7	26.4	85	75	10	10	------	
15	29.2	27	77	76	10	10	------	
16	31.6	25.6	86	65	10	10	------	
17	31.7	25.3	85	70	8	9	------	⊏ p.
18	32.4	24.3	86	69	2	9	------	◜◝ p.
19	33.1	24.7	91	77	10	9	------	d° a. ○ ≤ ☋[2] p.
20	32.5	24.1	95	64	9	7	------	☋ p.
21	33	25.2	87	61	5	7	------	
22	33.4	24.2	92	74	6	8	------	d° a. ●° ☋° p.
23	33.6	24	95	75	10	10	4.6	≡° a. ⊏° p.
24	33.1	23.9	97	84	10	10	13.7	≡ a. ● a. p. ☋ p.
25	31.7	23.4	97	72	8	7	49.5	≡ a. ● a. p. ≤ p.
26	33	24	92	75	10	10	.3	● a. ○ ≤ d° p.
27	31.7	24.5	88	66	9	10	------	≤° p.
28	33.4	24.2	92	60	6	5	------	≤ p.
29	34.4	24.4	89	60	9	3	------	≤° p.
30	32.5	24	95	68	2	4	------	≤ p.
Mean	32.7	24.3	90.7	69.7	7.8	8.2	------	
Total	------	------	------	------	------	------	183	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	25.8	23.2	98	98	10	10	90.2	⊤ a. ● a. p.
2	26.7	23.5	98	98	10	8	13.4	●° a. p.
3	32.1	23.9	92	75	8	10	------	●° a.
4	32.9	24.2	88	77	8	10	------	
5	31.9	24.2	96	73	6	7	------	
6	31.3	24	96	84	10	8	18.8	● p.
7	28.9	23.2	98	94	8	10	25.6	● ⊤ a. p.
8	30.3	24	90	78	9	7	------	● a.
9	32.6	24.1	95	67	8	6	------	
10	32.7	24.4	95	67	7	6	------	d° a.
11	32.7	25.3	94	72	8	8	2.3	
12	32.3	25.2	96	73	7	6	------	d ⊤ a.
13	31.8	25.8	95	74	10	10	3.8	d p.
14	29.3	25	93	83	10	10	------	d° p.
15	31	25.9	91	76	10	8	------	
16	31.7	26	88	73	8	8	1.8	d p.
17	32.2	25.3	90	84	7	8	------	d° p.
18	33.2	25.3	95	65	8	9	------	☋° p.
19	31.9	25.5	95	70	7	8	1.3	d° a. ☋ p.
20	32.6	25.2	95	69	7	7	1.8	d a. ☋ p.
21	32.3	24.9	90	67	6	8	------	☋° p.
22	33.8	25	91	64	8	6	------	
23	33.8	25.7	93	62	8	10	------	⊤ p.
24	30.2	24.3	96	91	7	10	6.4	d a. p. ⊤ p.
25	31.7	24.2	96	78	6	7	6.9	d a. ●° p.
26	30.6	24.3	96	81	8	10	7.9	●° a. p.
27	31.3	24.9	89	72	10	8	------	☋° p.
28	33.5	25.2	86	61	8	8	------	
29	33	24.4	89	71	8	8	------	
30	33.2	24.8	91	68	7	8	------	◠ d° a.
Mean	31.6	24.7	93.2	75.5	8.1	8.2	------	
Total	------	------	------	------	------	------	180.2	

SUMAY, GUAM (LADRONE ISLANDS).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	24.2	92	67	10	8	1.3	
2	30.6	24	92	74	7	10	------	
3	31	24.4	86	71	6	6	------	
4	30.8	24.8	84	71	6	6	------	
5	31.4	23.8	84	70	10	7	------	
6	30.4	24	92	66	10	10	2.5	
7	30	23	90	78	10	10	------	
8	28.4	23.8	92	86	7	10	50.8	
9	29.4	23	92	77	8	10	------	
10	30	24	93	77	10	8	10.1	
11	29	23	92	92	10	10	81.3	
12	28	22.6	97[a]	91	10[a]	10	52.1	
13	29	23	91	78	10	10	------	
14	30.4	23.4	92	78	10	10	12.7	
15	30	23.2	84	79	10	10	88.9	
16	28.6	22.4	92	82	10	10	11.5	
17	29.4	24.8	92	75	10	10	29.2	
18	28.4	23	97	80	10	10	6.3	
19	30.6	23	83	71	8	10	------	
20	30.4	24.4	92	71	10	10	5.1	
21	28	24.2	92	92	10	10	71.1	
22	30	23	91	69	6	7	1.3	
23	31	22.8	88	71	6	8	------	
24	31	24.6	89	71	10	10	2.5	
25	30.6	24.4	87	74	7	9	------	
26	30.6	23.8	92	74	7	10	------	
27	31	25.8	89	75	6	4	------	
28	30.6	25	84	71	8	10	------	
29	31	26	84	69	10	10	------	
30	29	26.4	84	77	10	10	------	
Mean	30	23.9	89.6	75.9	8.7	9.1	------	
Total	------	------	------	------	------	------	426.7	

[a] Observation at 7 a. m.

Meteorological data for third and fourth class stations—Continued.

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	26.6	23.3	100	94	10	10	148.1	●² a. p. ⊤ a.
2	25.1	24?	100	99	10	10	50.3	●² a. p.
3	28.1	22.5	100	93	10	10	13.7	d a. ● p.
4	31.6	23.4	99	95	10	10	4.3	≡ a. d p.
5	32.3	23.5	99	72	8	10	------	
6	32	22.6	97	72	8	8	------	
7	31	26.5	90	80	10	10	30.7	⌐ ●² p.
8	27	23.5	92	91	10	10	18.1	● a.
9	31.6	21.8	99	81	10	10	------	
10	31.3	22.2	99	81	7	7	------	
11	31.2	22.6	99	77	10	10	.8	≤ p.
12	32	23.6	99	82	10	10	.5	d a. p ⊤ p.
13	31.5	24	94	84	10	10	.3	●° p.
14	32.1	23.5	98	81	10	10	------	d p.
15	31.6	23.8	99	82	10	10	1.8	d p.
16	32.5	24.4	95	83	10	10	9.1	●° a. p.
17	30.5	23.6	99	94	10	10	14.3	●² p.
18	31.5	23.5	100	79	10	10	.8	⊤ ●° p.
19	30	23.5	98	83	10	10	------	⊤° p.
20	30.7	22.6	99	81	10	10	.3	⊤ ●° p.
21	31.9	23.1	98	83	10	9	.3	⊤ ●° ⊂² p.
22	30.7	22.4	95	83	10	9	.8	●° ⊂ ⊕ p.
23	30.1	22.4	97	78	10	10	.3	⊂ ⊕ ⊤ ≤ p.
24	31.5	23.6	97	73	10	10	4.8	●² a. ⊤ p.
25	31.5	23.5	97	74	10	10	1.8	
26	32	23.6	98	74	10	8	3	●° a. ⊤ ≤ ●° p.
27	32.6	23	95	69	10	10	------	
28	31	24.6	93	85	10	10	18	p a. d p.
29	29.4	23.5	100	78	10	10	4.9	d a.
30	29.1	23.5	96	83	10	10	1.8	●° a. p.
Mean	30.7	23.4	97.4	82.1	9.8	9.7	------	
Total	------	------	------	------	------	------	328.8	

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.6	24.5	97	81	10	10	------	● a.
2	29	24	92	87	10	10	6.6	●° a. p.
3	30.4	24.2	93	90	10	10	.5	d a. p.
4	31.4	24.4	96	93	10	9	------	☊° a.
5	31.8	23.6	97	72	5	7	------	☊² a.
6	31.5	23.2	97	78	5	10	------	☊² a.
7	32	23.8	97	65	10	10	69.1	d a. ⊤² ●² ↙° ≤ p.
8	30.2	23.5	89	77	9	9	------	● a.
9	31.4	24	97	72	5	9	------	☊° a. ≤ p.
10	31.8	23.5	93	66	4	6	------	☊² a. ≤ p.
11	31.4	24	95	75	10	10	.8	☊ a. ≤² d° ⊤° p.
12	31.8	24.4	95	69	10	8	------	d a. ≤ p.
13	32	24	87	72	10	10	------	d a. ⊤ ≤ p.
14	29.9	25.2	95	78	10	10	3.8	
15	30.2	24.8	90	76	10	10	------	● a.
16	31.5	25	90	68	10	10	------	↙° a. p. d° p.
17	31	24	82	67	10	10	------	d° p.
18	35	24.8	93	58	10	5	------	d° ⌒ ≤ ⌣ ⊕° p.
19	32.1	24.2	97	66	10	10	------	⊕° p.
20	32.9	23.6	92	63	10	9	------	
21	31.7	24.2	92	69	10	10	------	d° ⌣° ⊕ p.
22	34.1	23.8	95	57	9	6	------	⌣² p.
23	31.8	24.2	95	72	10	10	------	
24	27.9	23.6	94	92	10	10	3.6	●° a. d ⌣² ⊕ p.
25	30.8	23	97	85	7	9	6.4	⊤° d² a. ● p.
26	29.5	24	96	78	10	10	14	●° ⊤° a. d p.
27	31.8	24.2	92	69	10	10	------	● a. ↙° a. p.
28	34	25.2	84	61	10	7	------	
29	30.6	25	84	71	10	9	------	
30	33.9	24.2	89	60	10	10	------	↙° d° p.
Mean	31.4	24.1	92.7	72.9	9.1	9.1	------	
Total	------	------	------	------	------	------	104.8	

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.6	23.5	97	88	10	10	10.5	●° a. p.
2	28	22.6	97	89	10	10	5.7	● a. d p.
3	31.2	23.2	88	75	9	10	.1	d a. p.
4	32.7	23.4	90	59	10	9	------	
5	34	23	95	57	8	9	------	
6	33	22	98	58	10	9	22.9	≡ a.
7	32.7	23.3	97	70	10	8	41.1	●² a.
8	31.6	22.1	96	75	9	8	2.1	●° a. p.
9	30.3	22.8	97	72	9	9	------	
10	32.4	22.7	95	66	7	8	------	
11	31.5	23.1	97	75	9	10	.1	
12	32.5	23.6	95	64	10	8	19.3	p a. ● p.
13	32.5	22.5	97	71	9	10	1	●° p.
14	30.9	23.3	95	75	10	9	------	
15	30.7	25	89	75	10	10	------	
16	31.4	24.4	86	78	10	10	------	
17	30.1	24.5	85	86	10	10	5.1	●° p.
18	32.3	23.7	98	75	10	8	1.5	●° a.
19	30.9	23.3	97	77	9	10	------	
20	31.7	22.5	97	71	9	9	4.6	●° p.
21	32	23.6	91	68	9	8	------	
22	33	22.6	96	66	8	9	------	
23	31.7	23.5	97	67	9	9	------	
24	28.7	22.9	96	87	10	10	47.2	●² a.
25	31.6	22.5	96	81	9	10	53.1	● a.
26	30	22.6	97	89	10	9	22.3	● a. p.
27	30.5	23	92	75	10	10	------	
28	30.6	24.6	81	70	9	8	2	●° p.
29	31.5	24.5	87	72	10	9	.8	d a.
30	31.9	24	90	86	9	9	9	● p.
Mean	31.4	23.3	93.6	73.9	9.4	9.2	------	
Total	------	------	------	------	------	------	248.4	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	25.3	21.7	95	97	10	10	114.1	●² a. p.
2	24.8	22.1	97	95	10	10	81.8	●² a. p.
3	25.3	21.4	96	93	10	10	53.3	● a. p.
4	30.2	22.5	97	83	9	7	.5	d p.
5	33.8	22.4	96	67	7	7	------	
6	33.6	21.6	96	58	4	4	------	
7	31.4	23.4	95	86	9	9	38.9	d a. ●² p.
8	25.7?	20.3	97	90	7	10	22.1	● p.
9	32.1	22.7	97	62	10	7	------	
10	32.8	19.8	93	64	3	3	6.6	● p.
11	32.9	23.3	95	65	7	7	------	
12	33.3	24	92	65	9	7	4.3	
13	31.9	23.5	94	78	9	9	8.4	● a. p.
14	32.5	21.1	96	90	10	10	3.8	d p.
15	31.5	25.4	88	72	9	9	------	
16	32	25.3	86	68	9	6	3	○ p p.
17	------	23.4	95	57	8	10	8.6	d p.
18	33.2	------	96	71	7	7	4.1	●° p.
19	31.8	23.5	95	59	7	7	------	
20	32.8	23.1	95	64	7	7	------	
21	32.9	23.2	95	64	7	4	------	
22	33.7	23.1	96	62	6	4	------	
23	32.8	23.6	96	60	4	7	------	
24	31.8	23.2	92	88	9	10	14	● a. p. ⊤ p.
25	32.8	22.7	97	65	6	7	5.3	● p.
26	32.1	23.2	95	69	7	5	14.3	d ⊤ ⌣ p.
27	32.6	25	86	70	9	7	4.6	● p.
28	31.8	25.3	89	66	6	7	6.4	d a. ● p.
29	30.3	24.3	86	74	9	6	------	
30	28.8	25.2	84	77	9	9	4.6	d° a.
Mean	31.3	23.1	93.6	72.6	7.8	7.4	------	
Total	------	------	------	------	------	------	398.7	

Meteorological data for third and fourth class stations—Continued.

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.1	16.8	98	79	10	10	74	●² a. p.
2	27	16.5	98	78	9	10	15.5	●² a. p.
3	27.5	17.4	97	71	10	10	3.6	● a.
4	28.1	18.2	98	68	7	8	1.3	d a.
5	30	19.6	98	66	2	4	------	
6	31.1	20.3	97	65	5	8	3.6	≡° a. ●° p.
7	31.5	20	97	65	7	9	42.1	●² p.
8	31	19	98	66	10	10	11.2	● a. ●° p.
9	28.5	19.5	98	65	2	5	------	
10	30.1	20	97	68	7	8	------	d° a.
11	30.6	20.1	98	66	2	9	4.8	☊ ≡ a. ●° a. p.
12	31.3	20	97	66	10	9	25.4	● a. p.
13	31.8	19.6	97	66	8	10	24.4	☊ ●² a. ●° p.
14	28	20.3	97	66	7	8	------	d a.
15	29.3	20.1	98	65	2	9	20.6	●° p.
16	29.6	19	98	73	10	10	24.3	●° a. p.
17	28	19.6	98	67	7	8	------	d a.
18	30.3	20	97	67	2	5	------	≡° a.
19	31.8	19.5	98	70	7	8	3.8	●° p.
20	29.3	19.8	98	68	5	7	------	☊ ≡ a.
21	31.7	20.4	98	65	2	8	------	
22	31.5	20.7	98	63	2	5	------	☊ ≡ a.
23	32.1	20.8	97	62	7	8	------	
24	32	20.4	98	62	5	8	------	
25	31.5	20.1	97	62	2	4	------	
26	31.6	20.5	98	65	3	7	------	☊ ≡ a.
27	32	20	98	64	8	9	54.6	●² p.
28	32.3	19.3	97	72	10	10	52.8	● a. p.
29	27.8	18.5	98	67	10	10	19.5	●² a.
30	28.1	18	97	70	10	10	57.2	●² a. p.
Mean	30.8	19.5	97.6	67.2	6.3	8.1	------	
Total	------	------	------	------	------	------	438.7	

STA. CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	25.4	23	98	93	10	10	43.5	● a. d p.
2	28.4	22.1	96	92	10	10	3.8	d a. d² p.
3	28.6	22.7	97	91	10	10	4.4	d a. p.
4	29.9	22.2	98	80	7	9	2.5	●° a.
5	32.2	21.8	97	65	3	7	5.6	☊² ≡° a. ● p.
6	33.3	21.2	98	59	2	4	------	☊² a. ↙ p.
7	32.2	23.5	99	71	10	9	25.9	☊² a. ● p.
8	25.8	22.2	99	96	10	10	37.3	● a. d² a. p.
9	29.7	23.3	98	92	10	9	.5	☊ a. d p.
10	31.4	22.5	97	69	7	5	------	☊ a.
11	31.8	23	98	80	9	9	8.9	☊ a. d ● p.
12	31.9	24.1	98	90	10	9	11.2	● a. ┬° ●° p.
13	30.8	22.9	97	84	9	8	4.8	● p.
14	31.2	22.5	97	88	10	10	9.2	≡° ☊ ● a. d p.
15	31.5	24.5	93	76	10	10	------	☊° a.
16	29.3	24.3	92	88	10	9	11.7	d² a. ● d p.
17	30.8	24.1	94	77	9	10	4.1	d° p.
18	30.7	22.4	98	75	8	7	9.4	d° ◠ a. ○ ● p.
19	31.9	22.6	98	84	8	9	.8	☊ ≡° a. ┬ ●° p.
20	31.7	22.7	97	72	8	7	15.5	☊ a. ● ┬ p.
21	31.8	22.7	98	66	8	4	------	☊ ≡° a.
22	31.6	22.5	97	71	8	6	------	☊ a.
23	33.1	23	97	64	7	7	9.7	☊ a. ┬ ●° p.
24	29	23.1	98	74	9	10	3.5	d a. d² p.
25	31.6	23.3	94	67	10	8	11.2	d° a. ◠° ●° p.
26	32.2	22.3	98	70	7	7	4.3	☊ a. ●° ◠ ⌐⊻° p.
27	30.6	23.5	96	70	10	10	10.2	p² a. ● p.
28	30.8	24.1	87	90	10	10	29.5	● a. d² p.
29	30.9	23.7	97	75	10	9	1	d² a.
30	29.2	24.1	93	84	8	10	4.3	d² a. d° p.
Mean	30.6	23	96.5	78.4	8.6	8.4	------	
Total	------	------	------	------	------	------	272.8	

ANTIPOLO.

[ϕ=14° 36′ N; λ=121° 10′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	26.4	21.9	98	88	10	10	11.2	≡ ● ┬° a. p° p.
2	28.2	21.7	97	90	10	10	4.6	● p.
3	26.8	22	97	90	10	10	4	●° a. p.
4	29.4	22.5	94	91	8	10	3.8	●° a. p.
5	32.2	21.9	91	64	4	6	9.4	● ⌐⊻ p.
6	31.6	21.7	89	70	2	7	1	┬ ◠ ●° p.
7	30.8	21.8	96	81	10	10	23.9	● ⌐⊻ p.
8	25.2	21.6	97	91	10	10	69.9	●² a. p.
9	28.7	22	99	83	10	9	1.5	
10	29.7	22.4	97	75	8	7	------	● a.
11	30.3	22.9	97	77	10	8	2.3	⌐⊻° p.
12	30.3	22.6	97	73	10	8	------	● ≡ a. ↙ p.
13	30.6	22	97	77	10	9	5.1	◠² ↘ d p.
14	31	22.8	97	86	10	10	.5	p a. ┬° ⊕ p.
15	30.2	23.4	96	93	10	10	9.1	
16	28.8	24	97	96	10	10	14.2	●² a. ●° ┬° ↙ᵛ p.
17	29	22.9	97	89	10	10	10.2	●° a. p.
18	30	22.5	97	72	8	8	27.9	≡° ◠ a. ●² p.
19	31	22.4	98	71	10	9	.5	
20	30.6	22.3	97	71	8	8	------	d ☊² a.
21	30.7	22.3	97	70	8	3	3.6	● a.
22	31.1	22.3	96	58	3	4	------	☊° a. ⊍ p.
23	31.2	22.2	97	77	4	10	62	☊ a. ⌐⊻² ●² p.
24	29.2	21.8	97	78	10	10	5.4	● a. ↙ ⊍ p.
25	31.5	22	96	73	9	10	2.8	☊ a. ● p.
26	30.3	21.3	98	86	5	8	13.3	●° a. p. ⌐⊻ p.
27	27.6	22.2	96	82	10	10	21.1	● a. p. ↙ᵛ° ┬° p.
28	29.1	23.3	97	82	10	10	2	
29	27.6	22.5	97	82	10	10	39.8	●° ⌐⊻ a. ● p.
30	25.7	22.8	98	97	10	10	45.4	● a. p.
Mean	29.5	22.3	96.5	80.4	8.6	8.8	------	
Total	------	------	------	------	------	------	394.5	

IBA.

[ϕ=15° 20′ N; λ=119° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.8	23.1	91	76	10	10	53.1	●² a. p.
2	28.9	22.5	98	80	10	10	53.3	● a. p.
3	29	22.5	95	93	10	10	46.4	● a. p.
4	29.7	23.4	89	78	10	10	25.7	●° a. ● p.
5	30.9	23	92	74	10	8	3	●° a. p. ↘ p.
6	31	23.1	91	71	10	3	2.3	● ⌐⊻² p.
7	31	22.5	96	77	10	7	5.3	d a. ● ⌐⊻² p.
8	27	22.9	97	95	10	10	11.2	● a. p.
9	30	22.8	97	74	10	10	7.1	○ a. p. ● p.
10	30.6	22.6	97	75	5	6	28.3	d a. ● ⌐⊻ p.
11	28.4	23.1	97	87	10	10	63.1	⌐⊻ ●² a. p. ◠ p.
12	30.4	22	98	71	10	10	3.9	●° a. p. ↘° p.
13	30.5	22.8	97	78	10	10	3.2	┬ ● p.
14	31	23	97	75	10	10	1.1	○ a. p. ●° ↘ p.
15	29.4	23.5	97	89	10	10	9.7	● ⌐⊻² p.
16	31.2	24.5	84	72	10	10	.8	●° a.
17	31	25	84	75	10	10	8.5	d a. ● ↘ p.
18	30.9	23.5	95	74	10	10	12.5	d a. ● ↘ p.
19	30.2	23.4	97	74	10	10	1	d ○ a. p. ●° ↘ p.
20	31.2	22.5	99	73	7	10	1.3	● ↘ ⊍ p.
21	31.2	22.7	96	70	10	10	.6	d a. p.
22	31	21.7	96	67	2	3	------	☊ ≡° a. ⊍ p.
23	31.5	21.5	97	74	4	10	.8	☊ ≡° ○ ┬ ●°
24	31	22.1	98	72	8	10	1	≡ a. ⌐⊻ ●° p.
25	32.1	23	93	73	10	10	11.7	⌐⊻² ● p.
26	31.5	21.3	98	72	3	5	------	◠ d ⊍ ↘ p.
27	31	22.5	96	82	10	10	18.7	≡° ●° a. ● ⊍ p.
28	31	23.1	92	74	10	10	13.2	○ d° a. p. ● p.
29	29.8	23.3	97	85	10	10	121.2	●° a. ⌐⊻ ●² p.
30	27.5	22.9	98	84	10	10	79.6	●² a. p. ◠ p.
Mean	30.3	22.9	95	77.1	9	9.1	------	
Total	------	------	------	------	------	------	587.6	

Meteorological data for third and fourth class stations—Continued.

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.5	23.3	97	73	10	10	35.6	● a. p.
2	31.5	23.5	97	66	10	10	8.9	● a. p.
3	30	23	97	77	10	10	4.1	d a. ● p.
4	29.7	22.9	96	82	3	9	12	d a. ● p.
5	33.1	23.3	97	55	10	7	------	
6	33.4	22.9	94	62	10	10	15	● ⊤ p.
7	34.5	22.3	95	63	9	9	18.3	⊤ ●° p.
8	26	22.7	97	85	10	10	6.1	● a. p.
9	30.6	22.9	97	82	10	10	2.3	● p.
10	31.7	22.4	97	73	2	10	41.1	● , p.
11	30.5	23.8	97	59	3	10	26.7	● p.
12	34.6	23.8	96	57	9	10	4.8	● p.
13	33	23.7	97	63	10	10	19.3	● p.
14	33.2	23.9	96	68	10	7	------	
15	30.5	23.7	97	66	10	10	------	d° a.
16	34.3	24.2	97	56	2	3	------	☊ a.
17	32.8	23.6	97	69	7	10	------	☊ a. d ⊤ ◟ p.
18	33	23.6	97	61	7	10	21.4	● ◠ p.
19	32.9	23.4	97	60	3	8	------	
20	33.2	23.1	96	88	3	10	10.5	● ⌐◹ p.
21	33.5	22.4	96	78	2	8	.3	d p.
22	33.4	21.5	95	59	7	9	2.8	● ◠ p.
23	34.4	22.1	96	54	2	10	1.3	● ⊤ p.
24	31.5	21.6	96	65	9	9	------	d a. p.
25	36	23.3	97	57	7	8	7.1	d° a. ● p.
26	36.7	21.6	96	55	2	7	------	
27	32.1	21.2	96	79	10	10	9.9	● p.
28	32	20	95	65	10	10	------	d° p.
29	32.6	23.6	95	56	7	7	33.8	● p.
30	29.5	22.8	97	75	10	10	34.2	● ⊤ p.
Mean	32.3	22.9	96.3	66.9	7.1	9	------	
Total	------	------	------	------	------	------	315.5	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.6	23.7	93	66	10	7	------	
2	33.5	24.6	82	62	10	9	------	
3	33.3	24	90	64	10	9	0.8	◠ a. d ◠² p.
4	30.7	24.1	96	83	9	10	2.8	d a. ● p.
5	31.5	22.7	96	71	10	4	1	●° a. p. ◟ ⊤ p.
6	32	22.8	96	70	7	4	11.4	☊ a. ◟ ⊤ ● p.
7	32.1	23.2	96	76	10	10	1.5	d ⊤ ◟ ● p.
8	26.7	23.1	96	93	10	10	50	●² ⊤ ◟ a. ● ◟² p.
9	30.7	23.3	97	79	10	9	.3	d a. p.
10	33.5	24.9	84	62	10	9	------	d ◟ ⊤ p.
11	32.5	24.3	94	74	10	10	12.2	⊤ d ●² ◟² p.
12	32.6	23.7	91	66	10	10	------	◟ p.
13	33.9	24	87	61	10	10	.3	◟ ⊤ ● p.
14	33.7	24	95	60	10	8	6.6	d ● ⊤ ◟ p.
15	28.7	25.4	84	88	10	10	1.3	d a. p. ● ◟ p.
16	31.5	26	76	70	10	10	------	d a. p.
17	34.1	25	80	67	10	9	------	d p.
18	33.9	25.1	87	67	10	9	19.3	d ●² ⊤ ◟ p.
19	32.2	23.4	94	74	10	9	------	☊ a. ◟ ⊤ ⊎ p.
20	33.4	23.5	93	66	10	9	------	☊ a. ◟ ⊎ p.
21	33.6	24.8	83	60	9	5	------	⊎ p.
22	34.5	25	81	57	9	7	------	⊤ p.
23	33.5	23	87	66	10	7	3	⊤ ● ◟ p.
24	30.7	23.5	97	74	10	10	36.3	● a. p. ⊎ ◟ p.
25	30.5	23.8	96	76	10	9	4.6	d a. p. ● p.
26	33.3	22.3	94	62	9	10	3	☊ a. ● ◟ p.
27	27.2	23.8	83	86	10	10	16.3	● a. p.
28	31.1	24.5	79	67	10	10	1.1	d ◠ a. d ● p.
29	31	25.3	83	74	10	10	------	◟ d p.
30	32.5	24.8	83	66	10	9	------	
Mean	32	24.1	89.1	70.2	9.8	8.7	------	
Total	------	------	------	------	------	------	171.8	

SAN FERNANDO, UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	26.6	22.5	96	89	10	10	47.8	● a. p. ◟° p.
2	31	22.5	94	74	10	6	3.3	●° a. p. ⌐◹ p.
3	31.2	23.5	89	74	7	9	3.6	●° p.
4	31.6	23.4	88	62	9	8	.3	⊕° a. d p.
5	33.5	25	83	62	4	3	------	⊤° d° ◟° p.
6	31.7	22.8	93	68	3	4	1.3	☊ a. ⌐◹° ●° p.
7	31.9	23.3	97	70	8	7	2.5	⊤° ●° ◟° p.
8	27.5	24.5	93	78	9	10	14.7	d a. ● p.
9	31.6	22.5	97	71	10	7	1.5	◟° ●° p.
10	29.1	23.7	91	77	4	10	.5	◠² d ⊕° a. ⌐◹° p.
11	31.8	23.8	91	70	10	9	58.2	d ⊤° ◠ a. ⌐◹² ●² p.
12	29.9	22.9	90	75	10	10	49.5	◯² a. ●² p.
13	30.2	22.9	87	74	4	7	58.7	◯² a. ◠° ●² p.
14	30.4	22.7	98	73	10	9	26.9	◯² a. p. ●² p.
15	27.8	23.6	93	89	10	10	22.6	●° ⊤° a. p. ◟° p.
16	30.1	23.9	92	75	10	10	8.2	● a. p. ⊕² p.
17	29	24.1	87	81	10	10	29.7	●° a. p.
18	31.6	23.2	94	68	4	4	7.1	d ◯° a. ◟° ●° p.
19	29.5	23.5	96	76	9	9	.5	⊕ a. p. ●° ◟° p.
20	30.3	23.3	97	77	8	9	.5	⊕ a. p. ●° ⌐◹° p.
21	30.8	23.8	93	70	10	10	------	d° a. p. ☋° p.
22	31.2	23.9	91	65	9	9	16	● a. ☋° p.
23	31.4	22.1	97	69	3	2	1	☊² a. ⌐◹° ●° p.
24	31	22.1	95	68	9	9	7.1	d° ◯ a. ◠ ●° ⌐◹° p.
25	30.3	22.1	96	74	5	6	9.9	● ◟° p.
26	31.4	21.8	97	69	2	4	.3	d p.
27	28.5	23.1	95	79	10	10	22.4	d a. ● p.
28	28.2	23.2	89	87	10	10	11.2	● a. d p.
29	29.1	24.5	94	78	10	10	2	d a. ● ◟° p.
30	30.9	21.9	97	66	2	6	11.7	
Mean	30.3	23.2	93	73.6	7.6	7.9	------	
Total	------	------	------	------	------	------	419	

ECHAGUE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34	22.9	96	61	9	6	53.3	⊤ ●² ◟ p.
2	32.9	23.1	97	62	9	8	19.6	≡° a. ◟ ⊤ ●² p.
3	33.3	23.9	97	60	9	6	4.1	d° a. ● ◟ p.
4	33	23.9	97	62	9	8	1.8	≡° a. ● p.
5	32.9	22.4	96	60	7	8	------	≡° ☊² a. ◟ p.
6	34.9	22.5	94	58	2	3	------	☊ a. d° ⊤ ◟ p.
7	33.7	22.6	94	55	7	9	------	☊² a. ● ⊤ ◟ p.
8	29	23.4	96	85	10	10	12.5	≡° ☊² a. ●² ⊤° p.
9	32.7	23.2	98	69	10	7	3.6	⊤ ◟ d ⌐◹° p.
10	33.1	23.9	97	61	10	8	2	☊ ⊤ a. ●° ⌐◹° ◟ p.
11	33.1	23.4	96	63	10	6	25.4	☊ a. ⊤ ◟ ●² p.
12	32.8	22.2	97	63	10	7	7.6	☊ a. ◟ ● ⊤ p.
13	32.8	22.8	97	68	10	8	1	≡ a. ◯° ⊕ d ⊤ ◟ p.
14	33.3	22.3	86	62	9	8	3.8	☊² a. ◟ ⊤° ● p.
15	25.1	23.5	97	93	10	10	24.7	● a. ●° p.
16	31.4	22.9	97	64	10	10	------	◟ p.
17	35.9	21.4	91	58	6	7	8.6	◟ ● p.
18	32.8	22.9	97	67	8	7	.5	⊤ ◟ d° p.
19	33.3	23.5	96	66	10	7	2.5	☊² a. ⊤ ◟ ●° p.
20	34.7	23.7	80	64	8	3	12.2	☊ a. ● ⌐◹ p.
21	23.1	23.5	94	58	9	5	------	⊤ d° ◟ p.
22	33.8	23.3	97	60	2	4	50	≡° ☊² a. ⊤ ●² ◟ p.
23	32.5	22.8	95	60	4	8	16.8	● p.
24	30.7	22.6	95	85	10	9	.8	⊤ p p.
25	29.7	23.1	97	84	9	9	11.2	≡° ☊ p a. ●° ⊤ p.
26	27.6	22.7	95	87	10	9	17.8	●° ⊤ a. ● p.
27	26.1	23.3	92	91	10	10	17.8	● a. p.
28	33.4	22.6	97	60	10	10	------	d° ◯ ⊕ a.
29	33.8	22.6	87	63	9	10	------	
30	33.7	22	96	61	4	3	------	≡° ☊² a.
Mean	32.3	23	94.7	67	8.3	7.4	------	
Total	------	------	------	------	------	------	297.6	

Meteorological data for third and fourth class stations—Continued.

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.8	24.5	92	88	9	10	3.8	p p.
2	29.4	24.5	92	81	10	9	3.8	⊤° p p.
3	29.8	24.7	92	79	4	9	17.8	⊤° ● ⌐⊻° p.
4	30.9	24.9	95	71	10	9	------	⊤° d p.
5	31.8	25.2	90	72	3	7	1.5	⊤° p ⌐⊻° p.
6	29.9	24.9	92	81	0	6	------	Ω² a. ⌐⊻° d p.
7	30.4	25	88	78	9	4	------	⊤° d ⌒° ⊻ p.
8	29.3	26.1	92	81	6	10	14	Ω a. ● p.
9	29.9	24.8	93	79	8	9	10.4	● p.
10	29.8	24.8	93	81	3	9	------	● a. d ⊻ p.
11	29.9	24.8	92	79	9	9	3.3	Ω a. ⊤° ● ⊻ p.
12	29.9	24.8	92	79	8	9	------	⌒° d p.
13	29.9	25.2	89	82	2	8	10.9	Ω a. d ⌒° ⌐⊻° ● p.
14	29.8	25	92	74	4	3	22.9	● p.
15	27.8	25	90	81	8	9	37	● a. p. ⌐⊻° a.
16	27.8	25.9	88	81	10	10	28	● a. p.
17	26.9	25.5	95	87	10	10	34.3	● a. p.
18	28.9	25.9	84	74	10	10	24.1	● a. p.
19	28.9	24.7	92	84	8	10	3.3	p p.
20	28.9	24.5	92	85	9	9	------	⊻ p.
21	26.9	25.5	91	85	10	10	4.5	Ω d a. p p.
22	27	24.5	92	86	10	8	1.3	p a. p.
23	29.9	24.2	92	79	3	2	1	Ω a. ⊤° p p.
24	29.9	24.3	93	82	9	9	3.3	⊤° p p.
25	29.6	24.2	92	81	2	7	62.7	⌐⊻² ●² p.
26	29.5	23.5	92	79	4	8	1	p p.
27	27.8	24.5	90	92	10	10	29.4	● a. p.
28	27.5	24.5	96	95	10	10	23.6	● a. p.
29	29.4	24.5	92	81	9	10	------	
30	29.7	23.6	94	85	3	8	------	Ω² a. d p.
Mean	29.2	24.8	91.6	81.4	7	8.4	------	
Total	------	------	------	------	------	------	341.9	

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.1	23.5	97	79	10	10	1.3	≡° a. d p.
2	28.1	24	97	85	10	10	2.3	d a. p.
3	32	23.3	97	69	9	10	9.7	≡° a. d ● ⊻ p.
4	31.8	23.7	97	72	8	8	3.6	≡° a. ⊤° ●° ⌒ ⌐⊻ p.
5	32.2	23.4	96	67	2	8	.5	d ⌐⊻ ⌒° ⊻ p.
6	31.3	24	97	72	1	8	10.7	≡ a. d° ⌐⊻ ● p.
7	32.9	23.5	97	75	5	4	17.8	≡ a. ⌒ ⌐⊻ ●² p.
8	32	24.2	91	70	2	7	15.2	⊤ ● ⌐⊻ p.
9	31.9	23.9	96	71	10	9	13.2	≡° a. ⊤° ● ⊻° p.
10	31.5	24.1	95	71	3	7	1	⊤° d° ● ⊻ p.
11	31.8	23.9	96	70	10	8	7.6	≡° a. ● ⌒ ⌐⊻ p.
12	31.5	23.5	95	73	9	10	------	⊻ p.
13	31.7	23.7	94	77	8	8	17.5	⊤° ●² p.
14	30.2	23.5	97	82	9	10	9.9	≡° d² a. ● d ⊻° p.
15	29.7	24.7	96	76	10	10	9.7	● d a. d ● ⌐⊻ p.
16	27.4	24.9	84	86	10	10	15.7	● a. p.
17	29.5	24.7	93	78	10	9	1.8	● a. p ⌒ ⊻° p.
18	30.9	23.5	96	78	10	10	13.1	Ω° ≡° a. d ● p.
19	30.9	23.4	96	71	10	9	1.3	d° ● p.
20	31	24	96	76	10	10	3.3	d° ⌐⊻ ● p.
21	30.5	24	93	74	9	9	------	d° p.
22	27.3	23.6	91	83	10	10	4.2	d ● a. d² p.
23	30.8	23	91	73	4	8	20.3	⊻° ● p.
24	33.3	23.6	97	63	5	8	1.5	⊤ ● d° p.
25	31.8	24	87	68	6	8	------	
26	29.9	24.2	82	76	9	10	3.3	d° a. ●° a. p.
27	27	24	92	90	10	10	55.9	● a. ●² p.
28	26.2	23.9	89	93	10	10	43.2	● a. p.
29	28	23.2	87	83	10	10	.5	d a. ● p.
30	28	23.8	96	86	10	10	7.9	● a. p.
Mean	30.4	23.8	93.6	76.2	8	8.9	------	
Total	------	------	------	------	------	------	292	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.9	23.6	95	81	10	9	6.6	● a. d° p.
2	31	22.8	91	84	4	8	9.7	● a. d° p.
3	31.2	22.7	93	85	1	8	1	● a. ●° p.
4	31.9	25	92	88	4	8	6.8	●° a. p.
5	32	24.6	93	83	8	7	1.8	● ⊤° a. ○ Ω p.
6	32.5	23.5	94	78	8	2	------	⊻° Ω p.
7	32.5	22.6	95	80	0	3	------	Ω a. p.
8	32.4	22.2	96	83	1	5	------	Ω a. ⌒ d p.
9	33	23	95	78	2	4	------	Ω² p.
10	32.4	22	93	79	0	2	------	⊻ Ω p.
11	32.3	22.5	92	84	3	5	14.5	● a. p. d ⌒ ⊻ p.
12	31.6	22.4	93	80	8	4	------	d° a. Ω p.
13	31.7	22.5	95	82	3	3	.7	⊤² ⌒ a. d° p.
14	31.5	24.6	90	83	3	4	5.3	●° ⌒ a. ● ⌐⊻° p.
15	28.8	24	88	87	9	10	55.6	● ⌐⊻° a. p.
16	28.1	22.8	94	90	10	10	69.8	●² ⌐⊻ a. p.
17	30.4	24	89	85	8	7	------	⌐⊻° a. ⊻ p.
18	29.4	22.7	94	89	10	10	28.4	●² a. p.
19	31.5	23.2	92	79	10	6	5.6	●° p.
20	30.9	24	95	87	8	6	------	d° p.
21	30.9	23.6	92	90	3	10	7.2	● ⌐⊻° ⌒ p.
22	31.4	24	91	86	3	7	28.4	d° ⌒° a. ●° p.
23	28.8	22.3	90	84	10	8	3.3	d ⌒² a. ●° p.
24	29	22.5	87	87	8	5	------	d° a.
25	29	23.7	87	80	6	7	.7	d p.
26	29.4	23.5	85	79	4	8	4.1	d a. p.
27	26.6	23.1	92	91	8	10	90.2	● a. ●² ⌐⊻° p.
28	26.7	20.9	92	95	10	10	288.3	●² ⌐⊻ a. p.
29	27.2	22.4	93	94	10	10	133.4	●² ⌐⊻ a. ● ⌐⊻° p.
30	28.5	22	95	79	10	10	15.9	● a. p.
Mean	30.4	23.1	92.1	84.3	6.1	6.9	------	
Total	------	------	------	------	------	------	777.3	

SEISMOLOGICAL BULLETIN FOR SEPTEMBER, 1912.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
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EARTHQUAKES FELT IN THE PHILIPPINES.[1]

1, $13^h\ 22^m\ 23^s$ * [1, $21^h\ 22^m\ 23^s$]. **Eastern Mindoro.** Earthquake felt throughout the whole of East Mindoro, in the Provinces of S Luzon, Tayabas, and La Laguna, and the Islands of Marinduque, Romblon, and Tablas. The epicenter appears to have been between Mindoro and Marinduque; the meizoseismic area was a very prolonged but narrow belt in the direction N–S. The intensity in the stations of Calapan and Pandarocan, NE and S of Mindoro, was IV and the duration more than 20 seconds; in the La Laguna and Tayabas stations the intensity did not exceed III–IV. We have no data from Marinduque, where the earthquake must have been felt with an equal or greater intensity than on the eastern coast of Mindoro. The great extent of the disturbed area, more than 300 kilometers in the direction N–S leads one to suppose that, in the epicenter, which was situated under the sea, the intensity must have reached VI or VII. It was registered only by the seismographs in Manila and Baguio.

2, $1^h\ 10^m$ [2, $9^h\ 10^m$]. **Nueva Caceres** (SE of Luzon). Earthquake of intensity II–III.

4, $0^h\ 27^m\ 48^s$ * [4, $8^h\ 27^m\ 48^s$]. **Mindoro and southern Luzon.** Earthquake whose origin seemed situated in the same place as in the preceding, between Mindoro and Marinduque. It had intensity V in Calapan, NE of Mindoro, and in Atimonan, E of S of Luzon. In Marinduque it must have had equal or greater intensity, but there are no data available; in the extreme S of Mindoro it did not exceed intensity IV–V. It was felt in all the other provinces of S Luzon as far as parallel 15°.5 with intensity II–III. In the Southern Islands it was felt in Romblon, Cuyo, and probably in the NE of Panay, thus making its area a long narrow zone from N–S of more than 500 kilometers long. It was not registered outside the Archipelago.

5, $15^h\ 10^m$ [5, $23^h\ 10^m$]. **Tacloban** (NE of Leyte). Oscillatory earthquake. Direction SE–NW, intensity III, duration 3 seconds.

9, $1^h\ 40^m$ [9, $9^h\ 40^m$]. **Southeastern Mindanao.** Earthquake of intensity III–IV on the SE coasts of Mindanao and the southern part of the Agusan Valley. Its epicenter appears to have been in the eastern cordillera to the north of parallel 7° N and to the east of meridian 126° E.

10, $11^h\ 21^m$ [10, $19^h\ 21^m$]. **Talacogon** (Agusan, E of Mindanao). Earthquake of intensity IV, and very short duration.

13, $20^h\ 47^m$ [14, $4^h\ 47^m$]. **Samar, Leyte, and northeastern Mindanao.** Earthquake of intensity IV in SE Samar, III on the E coast of Leyte and II–III in the NE of Mindanao.

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi–Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in Greenwhich mean time (Midnight=0^h), Insular time being added in brackets for the convenience of Philippine readers.

Its origin appears to have been in the sea, close to meridian 126° E, between parallels 10° and 11° N.

16, 17h 20m [17, 1h 20m]. **Butuan** (N of Mindanao). Rotatory earthquake. Intensity III, duration short.

18, 5h 05m [18, 13h 05m]. **Santo Domingo** (Batanes Islands). Trepidatory earthquake of intensity IV, accompanied by subterranean noises; duration 7 seconds.

18, 19h 00m [19, 3h 00m]. **Mati** (S of Mindanao). Earthquake of intensity III–IV; and long duration.

20, 11h 40m [20, 19h 40m]. **Santo Domingo** (Batanes Islands). Earthquake of intensity IV–V and short duration. A subterranean noise grade VI (Davison) preceded it.

21, 3h 42m [21, 11h 42m]. **Sarangani** (S of Mindanao). Earthquake of intensity III.

23, 1h 30m [23, 9h 30m]. **Surigao** (NE of Mindanao). Trepidatory earthquake of intensity II–III and duration 3 seconds.

28, 12h 45m [28, 20h 45m]. **Cotabato** (SW of Mindanao). Oscillatory earthquake. Direction NW–SE, intensity III, duration 6 seconds.

30, 6h 15m **L. T. Yap** (Western Carolines). Oscillatory earthquake. Direction WSW–ENE; intensity IV; duration, some 20 seconds. This earthquake appears to correspond to No. 237 of the "Records of the Microseismograph." If this is so, then the time given by the observer at Yap is only an approximation. The observer at Butuan, E Mindanao, also records that at day-break of the 30th a very slight earthquake was felt. As the earthquake that produced the record No. 237 was doubtless of great intensity and extent in view of the amplitude with which it was registered in the most distant stations of Europe and America, it does not seem improbable that the movements perceptible in Yap and in the E of Mindanao correspond to the same large earthquake recorded in all parts of the world and whose origin was probably in the Pacific between the meridians of Yap and E of Mindanao.

In the following table we give the Greenwich time at which the first preliminary movements were registered by the seismographs of the principal observatories.

	h.	m.	s.		h.	m.	s.
Manila, P. I. 29th,	20	55	22	Trieste, Austria 29th,	21	05	49
Taihoku, Formosa 29th,	20	56	16	Aachen, Germany 29th,	21	05	52
Shanghai, China 29th,	20	57	14	Graz, Germany 29th,	21	05	40
Osaka, Japan 29th,	20	57	35	Lemberg, Germany 29th,	21	05	28
Chemulpo, Korea 29th,	20	58	17	Hamburg, Germany 29th,	21	05	48
Vienna, Austria 29th,	21	05	01	Ottawa, Canada 29th,	21	10	22

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Mean Greenwich. Midnight=0 h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T_0=5.7, ϵ=3.6; A_E: T_0=6.1, ϵ=3. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
218	1	I_I	eP	4 16 48				
			eS	19 52				
			L	22 07				
			M_N	22 22	7	59		
			M_E	23 21	7		99	
			F	49				
219	1	II_V	eP	13 22 23				Eastern Mindoro.
			L	22 44				
			M_E	24 12	5-6		386	
			F	39				
220	2	I_{II}	eP	11 17 00				
			F	20				

Records of the microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. *m.* *s.*				
221	2	I_d	eP	18 59 26				
			L	19 00 07				
			F	03				
222	2	I_d	eP	20 34 10				
			L	34 27				
			F	37				
223	4	II_v	eP	0 27 48				Mindoro and S of Luzon.
			L	28 00				
			F	49				
224	5	I_d	eP	8 11 58				
			L	12 06				
			M_N	12 19	1-2	9		
			F	13				
225	8	I_d	eP	5 06 13				
			L	06 31				
			M_N	06 49	1	14		
			F	09				
226	8	I_d	eP	6 08 02				
			L	08 16				
			M_N	08 36	1	17		
			F	11				
227	9	I_d	eP	7 43 47				
			L	44 10				
			M_N	44 14	2-3	37		
			M_E	44 14	2-3		28	
			F	50				
228	11	I_r	eP	0 53 19				
			eS	58 26				
			L	1 03 58				
			M_E	06 46	13		20	
			M_N	07 43	13-14	5		
			F	30				
229	11	I	e	19 48 09				
			F	57				
230	12	I_d	eP	08 15 05				
			L	15 29				
			M_N	15 54	2-3	14		
			F	20				
231	12	I	e	12 04 23				
			F	13				
232	16	I_d	eP	22 26 46				
			F	29				
233	17	I_d	eP	14 20 00				
			L	20 16				
			F	22				
234	19	I_d	eP	23 49 20				
			L	49 37				
			F	54				
235	22	I_d	i	0 51 49				
			F	53				
236	22	II_d	eP	3 29 42				
			L	29 56				
			M_N	30 19	2-3	69		
			M_E	30 19	4		93	
			F	36				
237	29	III_r	eP	20 55 22	4-5			Yap, W. Carolines.—Maximum greater than width of paper in E-W component.
			S_N	58 33	4-5			
			S_E	58 56	5-6			
			L_E	21 00 40	6-7			
			L_N	00 54	6-7			
			M_N	04 19	5-6	493		
			F	22 56				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

1, $13^h\ 22^m\ 23^s$ * [1, $21^h\ 22^m\ 23^s$]. **E de Mindoro.** Temblor de tierra sentido en toda la parte oriental de Mindoro, en las provincias del S de Luzón, Tayabas y La Laguna, y en las islas de Marinduque, Romblón y Tablas. Su epicentro parece se hallaba entre Mindoro y Marinduque; el área meizoséismica formaba una faja estrecha muy prolongada de N a S. En las estaciones de Calapán y Pandarocan NE y S de Mindoro, tuvo intensidad IV y duró más de 20 segundos; en las estaciones de La Laguna y Tayabas no pasó de III–IV. No poseemos datos de Marinduque donde debió sentirse con igual o mayor intensidad que en las costas E de Mindoro. La grande extensión del área conmovida, de más de 300 kilómetros en la dirección N–S, induce a creer que en el epicentro, situado debajo del mar, su intensidad llegó a VI o VII. Solamente lo registraron los seismógrafos de Manila y Baguio.

2, $1^h\ 10^m$ [2, $9^h\ 10^m$]. **Nueva Cáceres** (SE de Luzón). Temblor de tierra de intensidad II–III.

4, $0^h\ 27^m\ 48^s$ [4, $8^h\ 27^m\ 48^s$]. **Mindoro y S de Luzón.** Temblor de tierra originado al parecer en el mismo sitio que el precedente, entre Mindoro y Marinduque. Tuvo intensidad V en Calapán, NE de Mindoro, y en Atimonan E del S de Luzón, en Marinduque seguramente tuvo igual o mayor intensidad, pero no tenemos dato alguno; en el extremo S de Mindoro no pasó de intensidad IV–V. Fué perceptible con intensidad II–III en todas las otras provincias del S de Luzón hasta el paralelo 15°.5. De las Islas del S lo sintieron la de Romblón, Cuyo y probablemente el NE de Panay, cubriendo así un área estrecha y prolongada de N–S de más de 500 kilómetros de longitud. Tampoco fué registrado fuera del Archipiélago.

5, $15^h\ 10^m$ [5, $23^h\ 10^m$]. **Tacloban** (NE de Leyte). Temblor oscilatorio, dirección SE–NW, intensidad III, duración 3 segundos.

9, $1^h\ 40^m$ [9, $9^h\ 40^m$]. **SE de Mindanao.** Temblor de tierra de intensidad III–IV, en las costas SE de Mindanao y parte S del Valle del Agusan; su epicentro parece se hallaba en la cordillera oriental al Norte del paralelo 7° N y al Este del meridiano 126° E.

10, $11^h\ 21^m$ [10, $19^h\ 21^m$]. **Talacogon** (Agusan, E de Mindanao). Temblor de tierra de intensidad IV, duración muy corta.

13, $20^h\ 47^m$ [14, $4^h\ 47^m$]. **Sámar, Leyte y NE de Mindanao.** Temblor de tierra de intensidad IV en el SE de Sámar, III en la costa E de Leyte y II–III al NE de Mindanao: su origen parece se hallaba en el mar cerca del meridiano 126° E, entre los paralelos 10° y 11° N.

16, $17^h\ 20^m$ [17, $1^h\ 20^m$]. **Butuan** (N de Mindanao). Temblor de tierra rotatorio, intensidad III, duración muy corta.

18, $5^h\ 05^m$ [18, $13^h\ 05^m$]. **Santo Domingo** (Islas Batanes). Temblor de tierra susultorio, intensidad IV, acompañado de ruido subterráneo; duración 7 segundos.

18, $19^h\ 00^m$ [19, $3^h\ 00^m$]. **Mati** (SE de Mindanao). Temblor de tierra de intensidad III–IV, duración larga.

20, $11^h\ 40^m$ [20, $19^h\ 40^m$]. **Santo Domingo** (Islas Batanes). Temblor de tierra de intensidad IV–V, duración corta; precedido de ruido subterráneo del grado VI (Davison).

21, $3^h\ 42^m$ [21, $11^h\ 42^m$]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III.

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[1] La intensidad de los terremotos se indica conforme a la conocida escala de De Rossi–Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo medio de Greenwhich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

23, $1^h\ 30^m$ [23, $9^h\ 30^m$]. **Surigao** (NE de Mindanao. Temblor de tierra susultorio, intensidad II–III, duración 3 segundos.

28, $12^h\ 45^m$ [28, $20^h\ 45^m$]. **Cotabato** (SW de Mindanao). Temblor oscilatorio, dirección NW–SE, intensidad, III duración 6 segundos.

30, $6^h\ 15^m$. **T. L. Yap** (Carolinas occidentales). Temblor oscilatorio de intensidad IV, dirección WSW–ENE, duración unos 20 segundos. Este temblor parece corresponder al No. 237 de los "Records of the microseismograph"; si es así, la hora dada por el observador de Yap es solamente aproximada. El observador de Butuan, E de Mindanao, dió cuenta también de que *al amanecer* del día 30 se sintió allí un ligerísimo temblor de tierra. Como el terremoto que produjo el record No. 237 fué sin duda de mucha intensidad y extensión, atendida la amplitud con que se registró en las estaciones más distantes de Europa y América, no parece improbable que los movimientos perceptibles en Yap y en el E de Mindanao correspondiesen al mismo gran terremoto registrado en todo el globo, y cuyo origen estaba probablemente en el Pacífico entre los meridianos de Yap y del E de Mindanao. A continuación copiamos la hora de Greenwich en que comenzaron a registrar los primeros movimientos preliminares los seismógrafos de los principales observatorios.

	h.	m.	s.		h.	m.	s.
Manila, P. I.	29, 20	55	22	Trieste, Austria	29, 21	05	49
Taihoku, Formosa	29, 20	56	16	Aechen, Alemania	29, 21	05	52
Shanghai, China	29, 20	57	14	Graz, Alemania	29, 21	05	40
Osaka, Japón	29, 20	57	35	Lemberg, Alemania	29, 21	05	28
Chemulpo, Corea	29, 20	58	17	Hamburgo, Alemania	29, 21	05	48
Viena, Austria	29, 21	05	01	Ottawa, Canada	29, 21	10	22

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

BULLETIN FOR OCTOBER, 1912.

METEOROLOGICAL BULLETIN FOR OCTOBER, 1912.

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GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure of the month was considerably lower than that of October of last year. This must be attributed to the extraordinary and abnormal absence of atmospheric disturbances during the October of 1911. And thus it is not to be wondered at, that though the mean atmospheric pressure of Manila, differs from that of 1911 by—2.01 mm. it only departs from the normal of the month by—0.30 mm. The lowest mean pressure occurred in Mindanao, Visayas, and southern Luzon during the typhoon which crossed the Visayas on the 15th and 16th; in some stations of central and northern Luzon the minima coincided with the passage of another typhoon through the Balintang Channel on the 10th and 11th, while in other stations the minima coincided with a third typhoon in northern Luzon on the 27th.

The mean monthly temperature differed but slightly from that of last year. In Manila it was lower than the October normal by 0.5° C. The extremes of temperature registered in the Central Observatory were 33.3 and 21.7° C. on the 28th and the 25th, respectively.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS FOR OCTOBER, 1912.

Station.	Pressure.						Temperature.					
	Mean.	Departure from October, 1911.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from October, 1911.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran[a]	758		759.98	3,7	750.62	15	27.1		34.6	4	22.3	20
Surigao	57.79		59.52	2	46.26	15						
Cebu	57.69	—1.83	59.62	3	46.72	15	26.9	0	34.2	3	22	3
Iloilo	57.90	—1.83	59.67	7	50.32	16	26.5	—0.2	32.8	21,31	22.8	16
Ormoc	58.09	—1.72	59.96	3	48.06	15	26.4	+ .8	32.6	27	20.5	29
Tacloban	57.96	—1.93	59.67	3	49.57	15	27	+ .2	34.4	3	23	26
Capiz	57.85	—2.15	59.74	31	48.33	16	26.5	— .3	34.3	27	22.9	4
Calbayog	57.83	—2.07	59.62	31	51.50	15	26.6	+ .6	33.8	3	21.8	29
Legaspi	57.96	—2.13	59.98	31	53.76	16	26.9	— .8	34.5	27	20.6	3
Atimonan	58.15	—2.23	60.40	31	55.18	16	26.6	— .5	34	2	22	12
Paracale	58.28	—2.26	60.47	31	55.38	16	26.8	— .1	32.7	1	22.8	4,8
Manila	58.36	—2.01	60.53	31	55.44	17	26.3	+ .2	33.3	28	21.7	25
San Isidro	58.53	—1.98	60.74	21	56.06	11	26.2	— .4	33.1	22,29	21.8	25
Dagupan	57.99	—2.05	60.27	31	55.26	11	27	— .4	34.9	21	22.8	24,30
Bolinao	57.86		60.40	31	55.06	11	26.8		33.1	22	22.6	21,30
Baguio[b]	636.03	—1.69	638.19	31	633.56	27	18	+ .1	25.1	22	14.7	25
Vigan	757.84	—2.15	760.50	31	752.63	27	26.7	— .2?	33.6	15	22.1	21
Tuguegarao	58.74	—2.16	61.43	21	52.19	27	25.5	— .3	34.5	29	21.4	12,17
Aparri	58.91	—2.08	61.73	20	53.35	10	26	+ .4	32.1	28	22.1	24

[a] 26 days of observation. [b] The barometric readings of this station are not reduced to sea level.

Precipitation.—Only 5 stations in the Philippines registered a less amount of rainfall than in October, 1911. It must be borne in mind, however, that October of last year was an extraordinary dry month. The total amount of rain collected in the gauges in Manila was 170.4 mm., which is greater than that of October 1911 by 160.7 mm. but less than the monthly normal by 18.2 mm. In the following table it will be seen that of the 25 stations for which comparisons with the monthly normal can be given, only 6 give negative differences, the other 19 giving positive differences:

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF OCTOBER, 1912.

Station.	Total.	Departure from October, 1911.	Departure from normal.	Rainy days.	Departure from October, 1911.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from October, 1911.	Departure from normal.	Rainy days.	Departure from October, 1911.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*	*mm.*			*mm.*			*mm.*	*mm.*	*mm.*			*mm.*	
Jolo	254.7	+ 64.9	+ 39.9	19	+ 7	43.8	6	Legaspi	332.6	+ 238.2	+ 3.7	20	+ 13	96.1	15
Isabela, Basilan	369	+ 93.2	-------	17	+ 5	102.1	13	Sumay, Guam	380	— 71.5	-------	20	— 1	85.1	14
Zamboanga	[a]197.7	-------	-------	-------	-------	64.2	15	Calapan	328.1	+ 181.8	-------	20	+ 2	77.2	16
Davao	228.6	— 30.5	— 19.6	17	+ 2	58.8	20	Virac	385.2	+ 310.6	-------	24	+ 8	63.5	15
Cotabato	315	-------	+ 70.6	15	-------	67.3	15	Nueva Caceres	437	+ 391.9	+207.3	22	+ 15	68.5	16
Cagayan, Misamis	215.6	+ 162.2	-------	17	+ 7	52.3	6	Batangas	359.1	+ 353.6	-------	20	+ 12	81.1	16
Dapitan	340.8	-------	-------	15	-------	88.6	15	Atimonan	547.9	+ 378	+169.3	19	— 4	102.1	13
Butuan	225.1	+ 119.9	+ 59.5	11	— 7	81	14	Silang	196.7	+ 114.8	-------	14	+ 9	64.8	16
Dumaguete	111.8	— 73.3	-------	13	+ 1	20.4	14	Paracale	563.9	+ 225.6	-------	27	+ 7	96.3	16
Yap, W. Carolines	320.1	+ 23.5	-------	20	— 7	75.7	19	Sta. Cruz, Laguna	269.5	-------	-------	24	-------	56.1	16
Tagbilaran[a]	199.5	-------	-------	-------	-------	127.5	15	Manila	170.4	+ 160.7	— 18.2	26	+ 20	28.4	7
Surigao	402	+ 146.2	+ 159.8	20	0	129.3	15	Antipolo	257.1	+ 169.6	-------	24	+ 14	25.4	3
Maasin	795.4?	+ 560.6	+ 566.8	10	+ 2	394.7?	15	Iba	425.3	+ 303.5	-------	22	+ 16	103.4	1
Cebu	588.3?	+ 478.1	+ 379.2	18	+ 6	[b]299.7?	15	San Isidro	208.8	+ 150.4	+ 24.3	16	+ 7	51.6	7
Iloilo	559.5	+ 467	+ 309.7	17	+ 6	182.9	16	Tarlac	190.2	+ 143.9	— 8.2	16	+ 12	40.6	11
San Jose Buenavista	721.8	+ 612.8	-------	14	+ 1	244.9	16	Baler	428.3	+ 133	-------	19	+ 1	171.4	11
Cuyo	304.3	+ 245.2	-------	15	+ 8	80.5	16	Dagupan	232.1	+ 94.6	+ 25.4	16	+ 10	79	11
Ormoc	483.5	+ 340.9	+ 233.1	26	+ 5	125	15	Bolinao	273.6	-------	+ 82.4	16	-------	52	1
Guiuan	235	— 24.4	-------	16	— 5	63	15	Baguio	441.9	+ 297.3	— 43.7	25	+ 10	77.9	27
Tacloban	312.3	+ 127.9	-------	19	— 1	61.2	14	San Fernando, Union	265.3	-------	+115.6	15	-------	83.6	3
Capiz	489.2	+ 335	— 47.6	20	+ 4	191.3	15	Echagüe	342.4	+ 204.8	-------	25	+ 13	64	11
Borongan	302.1	— 134.7	— 44.1	18	— 4	82.8	15	Candon	154.1	-------	-------	16	-------	40.6	11
Calbayog	375.4	+ 222.6	+ 116.3	20	0	78.3	14	Vigan	372.3	+ 318.2	+197.7	14	+ 12	113.8	27
Masbate	258.5	-------	-------	22	-------	92.5	15	Tuguegarao	384.6	+ 363	+ 122.2	19	+ 14	133.7	26
Romblon	489.9	+ 313.6	-------	21	+ 7	230.4	16	Laoag	273.7	+ 262.2	-------	14	+ 13	138.9	27
Laoang	255.7	— 63	-------	21	+ 3	26.9	31	Aparri	289.9	+ 9.9	+ 3.7	22	+ 9	63.6	26
Gubat	319.4	+ 142.8	-------	19	+ 5	62.7	15	Sto. Domingo, Batanes	469.8	+ 344.6	-------	20	+ 2	86.6	6

[a] 26 days of observation.
[b] This is an estimate made by the observer, as the raingauge was blown down by a NW gale at about 7 p. m. of the 15th.

DEPRESSIONS AND TYPHOONS.

During the month the Observatory had occasion to announce four typhoons, three of which crossed the Philippines; one by the Balintang Channel, the second over the Visayas, and the third over the northern part of Luzon. That which passed over the Visayas was the most notable, in that it can be reckoned among the number of typhoons of extraordinary violence, which happily only visit the Archipelago at comparatively long intervals, and especially that part of the Philippines comprised between the parallels 10° 30′–14° and 16°–20°.

The tracks of these typhoons are shown in Plate V. We will give here a few particulars on them with a more detailed discussion of the one that crossed the Visayas on the 15th and 16th.

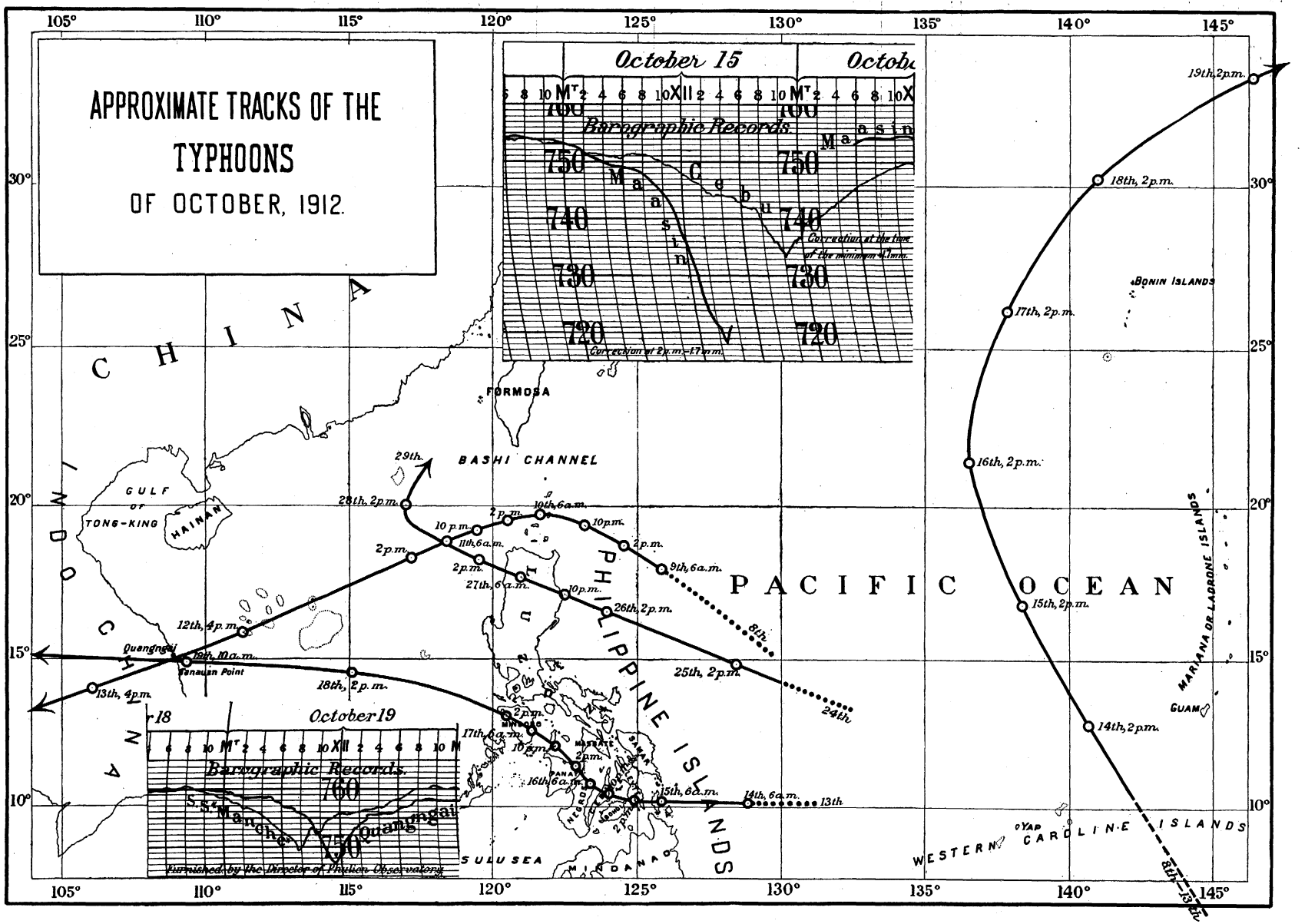
TYPHOON OF THE BALINTANG CHANNEL, OCTOBER 8–13, 1912.

This typhoon belonged to the type of those storms that form rather near to the Philippines and hence are difficult to forecast more than one or two days in advance. The first indication of an atmospheric disturbance to the east of Luzon was noted in the afternoon of the 8th, as was notified in the ordinary weather report of the 9th in these terms:

October 9, 11.50 a. m.: A typhoon has appeared since yesterday afternoon to the east of northern Luzon, its center being situated this morning at a distance from the coast of about 200 miles. It seems to be moving at present W or WNW.

On the chart of the tracks of this month's typhoons it may be seen that in the beginning this typhoon was moving in the direction NW by W, and then to WNW till it reached the Balintang Channel in the early morning of the 10th, when it underwent a well marked recurve to the WSW. The Observatory announced this well-marked change in the weather reports of the 11th and 12th.

Plate V.


APPROXIMATE TRACKS OF THE TYPHOONS OF OCTOBER, 1912.
October 15
Barographic Records
Correction at the time of the minimum 47mm.
Correction at 2p.m.—17mm.
October 19
Barographic Records
Furnished by the Director of Philippine Observatory
CHINA
FORMOSA
BASHI CHANNEL
GULF OF TONG-KING
HAINAN
INDO CHINA
PHILIPPINE ISLANDS
PACIFIC OCEAN
SULU SEA
MINDANAO
BONIN ISLANDS
MARIANA OR LADRONE ISLANDS
GUAM
YAP
WESTERN CAROLINE ISLANDS
Quangngai
Tanauan Point
Manila
105°
110°
115°
120°
125°
130°
135°
140°
145°
30°
25°
20°
15°
10°

October 11, 11.55 a. m.: The typhoon has inclined its track more to the west, its center being situated this morning over the China Sea to the west of Balintang Channel moving W. or WSW.

October 12, 11.55 a. m.: The typhoon lies this morning over the China Sea near the Paracels moving apparently to SWbyW.

In order that it may be clearly seen that the typhoon crossed the China Sea in the direction of WSW, it is enough to point out that having passed close to parallel 20° in the morning of the 10th, it nevertheless entered Indochina three days later near parallel 15°. The position of the center on the morning of the 10th may be determined by examining carefully the adjoined observations made at Aparri and Santo Domingo. The barometric minimum at Santo Domingo was 748.70 mm. at 5.15 a. m. of the 10th with winds from ENE which afterwards veered to E and ESE: at Aparri the minimum was 751.3 mm. at 4 p. m. of the same day when the winds had backed from NW to W, SW and S. There can be no doubt therefore but that the center passed between these two stations, but nearer to Santo Domingo than to Aparri: in other words it crossed the Balintang Channel close to parallel 20°. That the center did actually enter Indochina in the neighborhood of parallel 15° is evident from an inspection of several barometric curves and observations kindly sent us by Monsieur Le Cadet, director of the observatory of Phullen. From these data it is clear that the typhoon passed very close to Quang-Ngai at 1 a. m. of the 13th, causing a barometric minimum of 744 mm.[1]

METEOROLOGICAL OBSERVATIONS FOR OCTOBER 9 to 11, 1912.

Date and hour.	Aparri.					Santo Domingo.				
	Pressure.	Wind.		Weather.	Rainfall.	Pressure.	Wind.		Weather.	Rainfall in 24 hours beginning 6 a. m.
		Direction.	Force.				Direction.	Force.		
October 9:	*mm.*		*0–12.*		*mm.*	*mm.*		*0–12.*		*mm.*
6 a. m.	756.12	NbyW	3	o, q, r	[a]2.6	756.33	NNE	4	o, q, r	
2 p. m.	54.87	NW	5	o, q, r	1	54.79	NNE	4	o	
6 p. m.	54.86	N	3	o	1	53.83	NNE	4	o	
10 p. m.	55.71	NW	3	o, r	1.8	53.52	NE	5	o, q	58.9
October 10:										
2 a. m.	54.19	W	2	o, r	7.1					
6 a. m.	53.90	SW	3	o, r	15.5	48.96	ENE	6	o, q, r	
8 a. m.						49.90	ENE	6	o, q	
10 a. m.	54.68	SW	3	o, r	15	50.62	ENE-E	6	o, q, d	
2 p. m.	51.70	S	3	o, r	2.3	52.27	ESE	4	o	
6 p. m.	51.79	S	3	o	.5	54.07	E	5	o	
10 p. m.	53.83	S	1	o		56.74	E	4	o	79.5
October 11:										
6 a. m.	55.69	Calm		o, r	5.4	58.21	ENE	4	o	
2 p. m.	56.52	SE	2	o	1.3	58.42	ENE	5	c	8.9

[a] Rainfall from 10 p. m. to 6 a. m.

The following were the warnings sent by the Manila Observatory to the several meteorological centers of the Far East:

October 9, 9.25 a. m.: Typhoon E of northern Luzon, less than 300 miles distant, moving WNW or NW.

October 10, 12.10 p. m.: Typhoon near or over Balintang Channel, moving WNW.

October 11, 9.40 a. m.: Typhoon W of Balintang Channel, moving W.

October 11, 5.25 p. m.: Typhoon W of northern Luzon, more than 100 miles distant, moving SW.

TYPHOON OF OCTOBER 13–19, 1912.

For several days before the 13th the observations from Yap and Guam gave indications of the existence of a depression or typhoon in the Western Carolines between parallels 5° and 10° N. and meridians 142° and 146° E. On the 13th it was evident that a well developed typhoon existed between Yap and Guam at about an equal distance

[1] This minimum is somewhat doubtful, for it was taken from a self-registering apparatus wnich had not been working very satisfactorily.

from each. On the following day, the 14th, it was seen that the typhoon was moving to the NW and that consequently it was not dangerous for the Philippines. The following typhoon warnings were sent to the Observatories of Tokio, Zikawei, Taihoku, Hongkong, and Phulien:

October 13, 3.25 p. m.: Typhoon SW of Guam, moving W or WNW.
October 14, 7.00 a. m.: Typhoon SW of Guam, developing.
October 14, 4.15 p. m.: Typhoon W of Guam, moving NW.

Below are given the observations made at Yap and Guam for the 12–16 of October, and on them the Observatory founded its announcement on the 16th that the track was inclining to the N, and on the 17th, that it was probably recurving to the NE. The notes referred to are as follows:

October 16, 11.55 a. m.: The typhoon of the Pacific is situated about halfway between the Ladrones and the Loochoos, moving NW or NNW.
October 17, 11.45 a. m.: The typhoon of the Pacific is probably recurving northeastward.

On the 15th and the 16th the following typhoon warnings were sent to the Observatories mentioned above:

October 15, 10.55 a. m.: Typhoon W of the southern Ladrone or Mariana Islands, moving NW.
October 16, 11.58 a. m.: Typhoon in the Pacific Ocean, about halfway between the Mariana and the Loochoos, moving NW or NNW.

METEOROLOGICAL OBSERVATIONS FOR OCTOBER 12 to 16, 1912.

Date and hour.	Yap (Western Carolines).					Guam (Ladrone Islands).				
	Pressure.	Wind.		Weather.	Rainfall in 24 hours beginning 6 a. m.	Pressure.	Wind.		Weather.	Rainfall in 24 hours beginning 6 a. m.
		Direction.	Force.				Direction.	Force.		
October 12:	*mm.*		*0–12.*		*mm.*	*mm.*		*0–12.*		*mm.*
6 a. m.	756.98	Calm		c						
7 a. m.						756.50	ENE	3	o	
2 p. m.	55.58	Calm		c		55.48	ENE	5	o	3.8
October 13:										
6 a. m.	55.71	WNW	2	c		55.40	ENE	4	o	
2 p. m.	54.47	W	2	c		53.50	E	6	o	50.8
October 14:										
6 a. m.	54.33	W	2	o		53.07	ESE	6–7	o	
10 a. m.	55.08	W	2	o		53.30	SE	7	o	
Noon	54.28	W	3	o		52.32	SSE	6–7	o	
2 p. m.	53.22	WSW	3	o		52.20	SSE	6	o	
4 p. m.	53.15	WSW	3	o		52.17	SSE	6	o	
8 p. m.	54.99	SW	2	o	12.4	53.55	S	6	o	85.1
October 15:										
6 a. m.	54.76	SW	4	o		54.12	S	6	o	
10 a. m.	56.28	SW	3	o		54.72	S	6	o	
2 p. m.	54.68	SW	2	o		54.25	SSW	6	o	
6 p. m.	55.08	SW	2	o	0.5	55.45	SSW	6	o	35.5
October 16:										
6 a. m.	57.93	Calm		o, r		57.68	SSW	5	o	
2 p. m.	56.71	Calm		o		56.83	SW	4	o	6.4

THE LEYTE AND CEBU TYPHOON, OCTOBER 15–16, 1912.

The memory of the great losses of both life and property caused by the terrific typhoon of the 15th and 16th of October last, in the Visayan Islands, is still fresh in the minds of all. And though it is true that the first reports of the destructive effects of the storm were much exaggerated, especially in what was said of the capital of the Island of Cebu, still it must be admitted that the typhoon is to be classified as one of prime importance, both on account of the lowness of the barometer in the neighborhood of the vortex and the consequent violence of the winds, as well as on account of the torrential rains which caused inundations in most of the Visayan Islands, more particularly in the south of Leyte and the north of the Island of Cebu. The destruction in the city of Cebu itself would have been much greater than it actually was if the vortex had passed closer to the city, and if the typhoon would have remained as well developed as

when it was on the Island of Leyte. If the barometer, instead of falling to only 735 mm. had reached a minimum of 716 mm. as it did in Maasin, or 707 mm. as in Malitbog (towns in the south of Leyte), then the loss of life and property would have possibly justified the alarming character of the first reports.

The Manila Daily Bulletin was the first to receive an account of the disaster at 9 a. m. of Saturday October 19 and the editor immediately communicated it by telephone to the Executive Secretary and to most of the Government Bureaus, banks, and principal commercial houses of Manila. With a promptitude worthy of all praise, the Government sent help to the towns in greatest need and the same afternoon the coastguard cutter *Mindanao* and steamship *Churruca* of the Inchausti fleet left for Cebu with a relief expedition and supplies and commissions of the Bureau of Health and the Bureau of Science, this latter joined by Rev. Miguel Saderra Masó, Acting Director of the Weather Bureau, at the express wish of the Secretary of the Interior. The same night the U. S. S. *Cincinnati* also left for Cebu, having on board the Vice-Governor General, the Speaker of the Assembly, and General Bandholtz who was to be in charge of the relief work in the striken islands. Thanks to the generosity with which the Acting Director of the Bureau of Science placed at the disposal of Fr. Saderra, Sr. Cortés, assistant photographer of the Bureau, we are in possession of a good number of photographs taken in the city of Cebu, some of which will be reproduced later on in discussing the destructive effects of the typhoon in this city. Thanks are also due to the chiefs of the Bureau of Constabulary at Manila for having allowed us to have the use of several of the official reports which will be mentioned later.

Before proceeding with the study of the track of this typhoon it may be well to say that we call this storm "the Leyte and Cebu typhoon" because, though the typhoon passed over the Islands of Negros, Panay, and Mindoro as well as Leyte and Cebu, still it had so diminished in intensity after leaving Cebu that the damage caused in the other islands was relatively of slight importance compared with the ruin, destruction, and number of victims which it left in its train in the southern part of Leyte and the northern portion of Cebu.

Origin of the typhoon: its effects in Surigao.—As the observations from Yap, Western Carolines, did not give the slightest indication of the existence of this typhoon, we think that it can be asserted that it had its origin rather near to the Philippines, probably not far from 132° long. E and 10° lat. N. The Observatory weather maps of 6 a. m. and 2 p. m. of the 13th gave some slight indication of a depression or typhoon to the E of the Visayan Islands, but unfortunately this day happened to be a Sunday, when the telegraphic offices of the Philippines are open in the afternoon only from 4 to 5.30, and owing to this circumstance it was impossible to obtain special 4 o'clock observations, as is done on ordinary work days whenever there is any suspicion of an atmospheric depression, and for the same reason no typhoon warnings could be sent till the following morning.[1]

Had the conditions been more favorable, the Observatory would have been able to send out its first typhoon warning some fourteen hours earlier, as may be proved by

[1] We take this opportunity of expressing our thanks to the Director of Posts for the generosity with which he is willing at the slightest wish of the Director of the Weather Bureau, to keep open the telegraph offices during special hours on Sundays and official holidays and during the night. Nevertheless in cases like the present when there is question of days on which the first notices of a typhoon arrive, it is much to be desired, as far as the Weather Bureau is concerned, that the hours of the telegraphic service on Sundays and official holidays be extended a little more—that is to say, from 7.30 to 10 a. m. and from 2.30 to 5 p. m. It actually happens that the pressure is so great that by the time the meteorological telegrams have been received, deciphered, and transferred to the weather map and examined to see if perchance there may be any indications of a dangerous character there scarcely remains enough time over to ask the Director of Posts to keep open certain offices beyond the ordinary hour.

the fact that the observer at Surigao, without receiving any message from Manila and relying entirely on his own observations, telephoned this definite typhoon warning at 7.30 p. m. of the 13th: "First typhoon signal. There is a typhoon in the Pacific. All class of vessels should take proper precautions." The care and watchfulness of this observer, Sr. Pastor P. Daroy, is to be very highly commended, for even before communication was established with Manila, he sent the following note to the authorities on the morning of the 14th:

October 14, 7.30 a. m.: Fourth typhoon signal. Typhoon to the E of the Visayan Islands, approaching. The typhoon is dangerous though it is not imminent as yet. Nevertheless, serious precautions should be taken everywhere.

No sooner were the 6 a. m. observations of the 14th received in Manila than the Observatory at once sent the following urgent typhoon warning to the shipping firms in the capital:

October 14, 8.30 a. m.: A typhoon has appeared since yesterday afternoon over the Pacific to the E of the Visayas, moving W or WNW. Weather very insecure for the Visayas and southern Luzon. Navigation dangerous to and from the Visayan Islands.

To all the meteorological stations in the Philippines this warning was sent at almost the same time:

October 14, 8.25 a. m.: Typhoon E of the Visayan Islands, moving W or WNW.

As Surigao was the first of our stations to feel the influence of this typhoon, a few words may be said here concerning the observations made there and given below, and the effects of the storm in that locality.

METEOROLOGICAL OBSERVATIONS MADE AT SURIGAO, MINDANAO, OCTOBER 13 TO 16, 1912.

Date and hour.	Pressure.	Wind.			Lower clouds.		Weather.	State of sea.	Rain 24 hours beginning 6 a. m.
		Direction.	Force.		Form.	Direction.			
October 13:	*mm.*		*Miles p.h.*	*0-12.*					*mm.*
6 a. m	757.03	W	7.2	1	S.-Cu.		o	Smooth	
2 p. m	54.96	WSW	7.2	1	Cu.-N.	W	o	Smooth	
10 p. m	55.86	WSW	9.6	2	Cu.-N.		o, l	Tide-rips	
October 14:									
2 a. m	54.01	SW	13.2	3	Cu.-N.		o		
6 a. m	53.79	W	12	2	N.	NWbyN	o, d	Tide-rips	
10 a. m	53.41	WSW	12	2	N.	WNW	o, d	Tide-rips	
2 p. m	52.42	WNW	15.6	3	N.	NWbyN	o, d	Long, rolling	
4 p. m	51.95	WNW	13.2	3	N.	NNW	o, d	Long, rolling	
6 p. m	52.20	W	9.6	2	N.		o, q, r	Long, rolling	
8 p. m	52.03	WNW	10.8	2	N.		o, r	Long, rolling	
10 p. m	50.93	W	16.8	3	N.		o, r	Long, rolling	
11 p. m	50.43	W	22.8	4	N.		o, q, r	Long, rolling	
Midnight	49.28	WNW	26.4	5	Cu.-N.		o, q	Long, rolling	85.1
October 15:									
1 a. m	48.45	W	26.4	5	N.		o, q, r	Rough	
2 a. m	47.30	W	26.4	5	N.		o, q, r		
3 a. m	46.26	W	24	5	N.		o, q, r		
4 a. m	46.05	WNW	30	6	N.		o, q, r		
5 a. m	44.90	W	32.4	6	N.	WNW	o, q, r	Rough	
6 a. m	43.93	W	32.4	6	N.	WbyN	o, q, r		
7 a. m	41.74	WSW	45.6	8	N.	WbyS	o, q, r		
7.30 a. m	40.73	WSW	54	9	N.	WbyS	o, q, r		
8 a. m	40.34	SW	42	8	N.		o, q, r		
8.30 a. m	39.79	SW	66	11	N.		o, q, r		
9 a. m	39.02	SW	49.2	9	N.		o, q, r		
9.30 a. m	39.45	S	72	11	N.		o, q, r	Rough	
10 a. m	39.71	S	57.6	10	N.		o, q, r		
10.30 a. m	39.51	SSW		10	N.		o, q, r		
11 a. m	39.81	SSW		10	N.	SW	o, q, r		
11.30 a. m	41.23	SSW		9	N.		o, q, r		
Noon	41.83	S		9	N.	SW	o, q, r		
1 p. m	43.41	S		8	N.	SSW	o, q, r		
2 p. m	44.49	SSW		7	N.	SSW	o, q, r	Rough	
6 p. m	49.66	S		2	N.		o, r	Rough	
10 p. m	52.50	S		1	Cu.-N.		o	Long, rolling	129.3
October 16:									
2 a. m	52.41	Calm			Cu.-N.		o	Long, rolling	
6 a. m	54.35	Calm			Cu.-N.	SSW	o	Long, rolling	
10 a. m	54.76	SSW		1	Cu.	SSW	c	Moderate	
2 p. m	54.71	SSW		1	N.	SSW	o	Moderate	
6 p. m	55.74	SSW		1	Cu.-N.	SSW	o	Tide-rips	13.2

As may be seen from these observations, neither on the 13th nor the 14th were the winds observed to come from the NW, but only from WNW, W and WSW. This is a clear proof that in the beginning the typhoon was moving due W, which direction it kept also in passing over the Island of Leyte as we will see afterwards. The barometric minimum 739.02 mm. took place at 9 a. m. of the 15th, the winds having been of almost hurricane force from the SW at 8.30 a. m. The vortex must have been at the time to the north of Surigao at a distance of about 30 miles, i. e., near or over the Island of Dinagat. The isobars for 6 a. m. of the 15th are drawn on Plate VII.

From what has been said it will be understood how correct was the warning sent to the shipping firms in Manila at 9.15 a. m. of the same day:

October 15, 9.15 a. m.: The typhoon is situated this morning between the southern coast of Samar and Surigao. It is moving west toward Leyte, Cebu, Negros, and Panay.

The later track of the typhoon fully confirmed this prognostication.

The observer of Surigao describes the effect of the typhoon in these words:

The loss caused here is very considerable; 80 per cent of the houses of light materials are totally destroyed, the remaining 20 per cent being more or less damaged. Many houses and buildings of strong materials have also suffered, but not so much as the rest. Part of the Government building was unroofed, especially that part of it where the meteorological office was housed. Many large acacias and other trees were torn up by the roots.

The same observer also sent the following details of the effects of the typhoon in Dinagat and other towns of that province:

The town of Dinagat, Island of Dinagat, suffered as much or worse than Surigao. It is estimated that in the two towns of Surigao and Dinagat there are a thousand families without shelter.

The other towns along the Pacific coast, viz, Placer, Tandag, Lianga, Hinatuan, suffered practically nothing at all in comparison with Surigao and Dinagat. They had strong winds, but only a few old houses were blown down, though along the coast there was a very heavy sea. In Gigaquit 50 buildings, including houses and other constructions, were blown over by the wind.

Up to the present it has been impossible to figure out the amount of the losses, they are so great, i. e., in Surigao and Dinagat. Inclosed are two views of Calle McKinley, Surigao.

The photographs mentioned in the above letter were taken by Sr. Jesús Servillas, and given to Sr. Daroy by Mr. E. Tarwater, provincial treasurer of Surigao. (See Plate VI.)

From the Quarterly Bulletin of the Bureau of Public Works, January, 1913, we copy the following paragraph referring to the effects of this typhoon in Surigao:

The severe typhoon of October 14, 15, and 16 did very little damage to the road construction proper in Surigao. The saddest loss was the avenue of pretty acacia trees with their burdens of orchids and tree ferns that shaded the road from Bilangbilang, the port of Surigao, to the town center. This magnificent avenue is only a thing of memory.

The typhoon in Leyte.—From the early morning of the 14th it was seen that the typhoon was going to be very intense and so throughout the day repeated warnings were sent to the threatened provinces, that proper precautions might be taken everywhere. Among others, the following warning was sent to the observer at Tacloban, capital of Leyte:

October 14, 3.40 p. m.: The towns along the east coast of Leyte should take all possible preventative measures against the hurricane wave.

Further on something will be said on the question of whether the cyclonic wave was actually observed in this typhoon. In typhoons of exceptional violence and intensity the cyclonic wave is often more terrible and disastrous in its effects for the eastern coasts of the Philippines than the winds of cyclonic force even near the vortex.

The fourth typhoon signal, which signifies that the typhoon is dangerous for the locality was ordered to be hoisted as early as 8.25 a. m. of the 14th in all the stations of Samar and Leyte. Before midday of the 15th the fourth signal was displaced by the

Calle McKinley.

Calle McKinley.

THE TYPHOON OF LEYTE AND CEBU, OCTOBER 15, 1912.—EFFECTS OF THE TYPHOON IN SURIGAO.

sixth in Tacloban and Ormoc. This signal indicates that the typhoon will pass south of, and not far from, the place.

As a matter of fact the typhoon moving to the W after leaving the Island of Dinagat, broke with all its force on the most southerly part of the Island of Leyte in the early afternoon of the 15th. In the lower part of Plate VII may be seen the track of the typhoon across the Visayan Islands and the isobars corresponding to 2 p. m. of the 15th, when the vortex was within the southwest end of Leyte, after having traversed the southeast end and the Sogod Bay. We are fortunately in possession of valuable observations made in two points close to the vortex to the south of the track, viz, Malitbog and Maasin. The position of these two towns and of others to be mentioned shortly may be seen in Plate VII. Below is given a table of observations made in Malitbog at intervals of a few minutes from 11.42 a. m. till 2.21 p. m. of the 15th. They were taken from an aneroid barometer which was forwarded to the Observatory immediately after the storm that its instrumental error might be determined. After a careful examination, the instrument was found to be in very good condition and with an error of +2.5 mm. The proper correction has been applied to the observations. We wish to return our grateful thanks to Mr. B. Cogan of the house of "Viuda e Hijos de F. Escaño," who favored us with these observations together with other detailed information which is copied below and which served us admirably for the accurate tracing of the track of the vortex across Leyte and the Sogod Bay.

RECORD OF BAROMETER TAKEN IN MALITBOG ON OCTOBER 15, 1912.

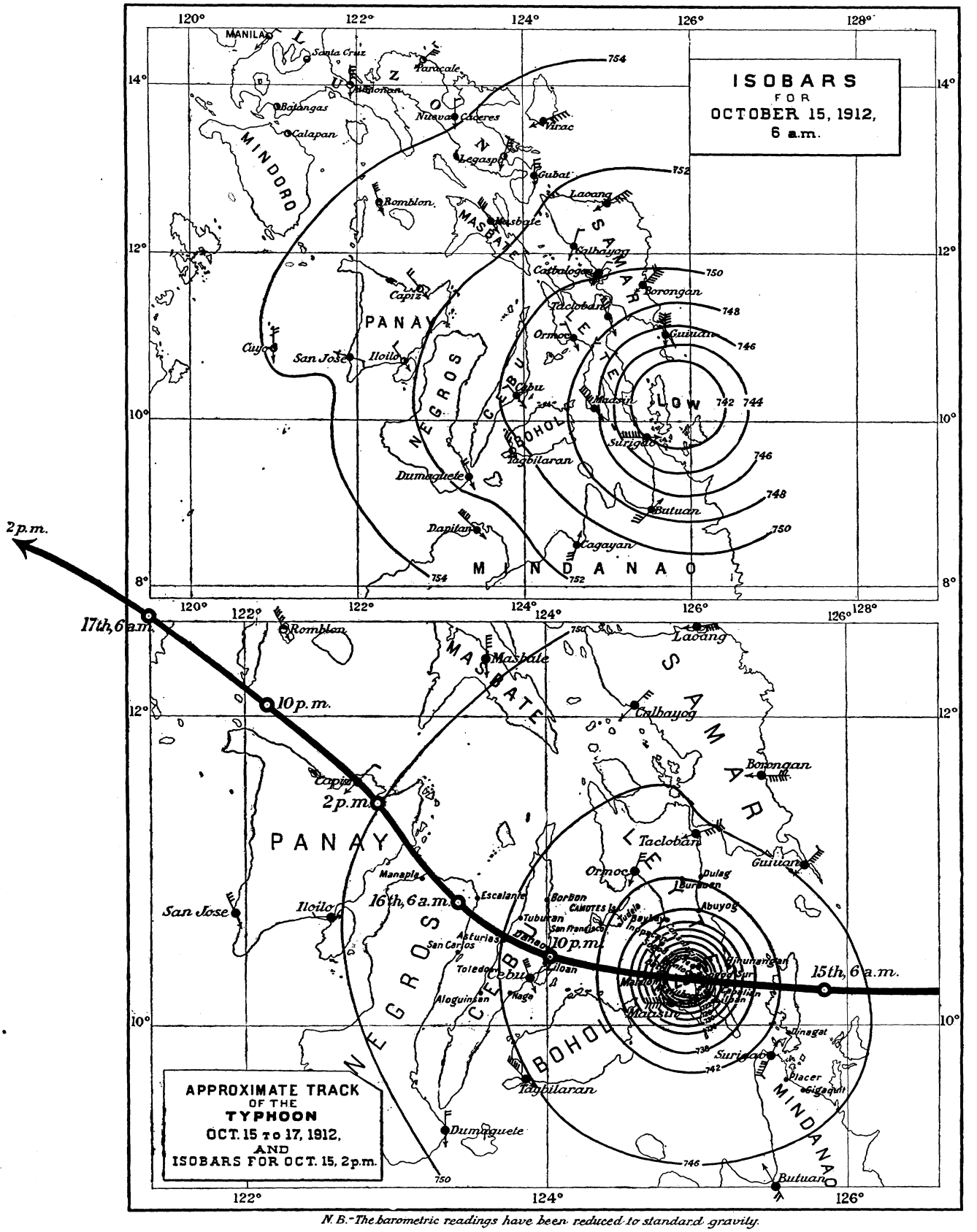
Hour.	Pressure.	Hour.	Pressure.	Hour.	Pressure.	Hour.	Pressure.
	mm.		*mm.*		*mm.*		*mm.*
11.42 a. m	720.5	12.06 p. m	715	12.41 p. m	710	1.02 p. m	708
11.44 a. m	20	12.08 p. m	14.5	12.44 p. m	09.5	1.30 p. m	08.5
11.45 a. m	19.5	12.10 p. m	13.5	12.52 p. m.	09	1.35 p. m	09
11.50 a. m	18.5	12.12 p. m	13	12.53 p. m	08.5	1.39 p. m	10
11.52 a. m	17.5	12.14 p. m	12.5	12.55 p. m	08	1.53 p. m	10.5
11.55 a. m	17	12.22 p. m	12	12.56 p. m	07.5	2.01 p. m	11.5
11.56 a. m	16.5	12.24 p. m	11.5	12.57 p. m	09	2.10 p. m	12.5
Noon	16	12.27 p. m	11	1.01 p. m	08.5	2.21 p. m	14.5
12.02 p. m	15.5	12.39 p. m	10.3				

The following is taken from the letter of Mr. Cogan:

The winds ranged at Malitbog from NW to SSE, strongest winds prevailing from NW, SW, and S. Considerable damage was done by the NW, but was mainly confined to destroying roofs and blowing down lighter constructions. I should say that the most damage was done by the SW wind, this wind carrying away our wharf, which was an exceedingly strong structure. The waves caused by the S and SSE winds removed every vestige of the wharf so that to-day there is no sign of the existence of the structure. While the NW winds were blowing the water in the bay had the appearance of boiling water, there being no special direction of the waves; with the SW, and more especially the S winds, there were long rolling waves moving rapidly up the bay; there was no central calm noted in Malitbog, but on the barometer commencing to rise after 1 p. m., while the NW still continued to blow, there was a decided calming of the wind during from 10 to 15 minutes when the SW struck us like a shot from a gun; the wind then backed very slowly, and at about 5.30 p. m. the direction was SSE. The central calm was reported from Sogod Sur but not from Sogod Norte, and the appearance of the vegetation in Sogod Sur bears this out. A central calm was reported from Union, a small barrio slightly S of Bontoc; this, however, lacks confirmation. From the S. S. *Victoria* which was lying in Liloan we have a well verified report of a blue ball[1] passing to the

[1] This was no doubt what meteorologists call the "eye of the storm," which Sir John Eliot in his "Handbook of Cyclonic storms" describes thus: "One of the most remarkable features of the more severe cyclones of the tropics is the area of very light winds or absolute calm in the center of the storm. Over this area the torrential rain of the hurricane ceases, and the clouds frequently break away, showing blue sky, with the sun or moon and stars. On account of its peculiar clearness this spot has received the name 'the eye of the storm.'"

Plate VII.



N.B.-The barometric readings have been reduced to standard gravity.

north. This vessel broke her moorings and went ashore at 1.30 p. m. Our agent at Hinunangan reports a reading on his barometer of 710 mm.[1] which would put the vortex somewhere equidistant between that town and Malitbog.

From these data it would appear quite certain that the vortex passed 7 or 8 miles to the N of Liloan and Malitbog probably over, or very close to, Cabalian, Sogod Sur and Matalom, and that it was still moving to the W. The observations made by our observer at Maasin and which are given below confirm this.

METEOROLOGICAL OBSERVATIONS MADE AT MAASIN, LEYTE, OCTOBER 13 TO 16, 1912.

Date and hour.	Pressure.	Wind.		Rainfall.	Remarks.
		Direction.	Force.		
October 13:	*mm.*		*0–12.*	*mm.*	
6 a. m	757.85	NW	2	----------	Frequent drizzle and thunders.
2 p. m	55.40	W	1	----------	Drizzling at intervals; lightning in the evening; raining at 9 p. m.
October 14:					
6 a. m	55.02	NW	2	31.2	Drizzling.
10 a. m	54.56	NW	3	----------	Continuous rain at 10.20 a. m.
11 a. m	54.05	NW	4	42.4	Continuous rain with gusty winds at 12.20 p. m.
2 p. m	52.27	NW	4	(?)	Rainy; winds of force 4 veering to NE at 2.20 p. m., and backing to N at 2.30 p. m.
4 p. m	53.09	NW	2	31.7	Rainbow, drizzle, and thunderstorm in the evening.
October 15:					
5 a. m	48.46	NW	6	7.1	Rain squalls.
6 a. m	48.19	NW	6	26.9	Continuous rain squalls; winds veering to NE at 6.20 a. m. and backing again to NW at 6.30 a. m., force 7.
7 a. m	47.46	NW	7	45.7	Moderate gale with heavy rain.
8 a. m	46.61	NW	8	23.9	Fresh gale and continuous rain.
9 a. m	45.07	NW	9	27.2	Strong gale and continuous rain.
10 a. m	43.29	NW	9	20.3	Winds of force 10 backing to W at 10.20 a. m. Continuous rain.
11 a. m	39.58	W	10	17.8	Whole gale with continuous rain.
Noon	33.35	W	10	17.8	Do.
1 p. m	25.41	W	11	27.9	Stormy winds with continuous rain.
2 p. m	20	W	11	75.7?	Do.
2.50 p. m	16	SW	12	----------	Hurricane winds; continuous rain. Vivid lightning at 5 p. m.
October 16:					
6 a. m	53.47	SW	8	138.4	Fresh gale abating; rain squalls at intervals in the morning.
2 p. m	54.05	SW	6	46.7	Continuous rain until 4.50 p. m.

As this station of Maasin is some 10 miles to the W of Malitbog and a little more to the S, it is natural that the barometric minimum should be a few millimeters higher and shoud have occurred a little later than at Malitbog. The barographic curve obtained at Maasin is included in Plate V though, unfortunately, through an unforeseen accident the pen did not write just after the minimum had been registered and the barometer had begun to rise again; and we have not been able to complete the curve from the direct observations because he observer was so occupied in trying to save his house and the instruments from destruction that he could not take the observations; and at 4 p. m. he was obliged to seek another shelter.

We copy here a few paragraphs from the report of this observer.

At 7 a. m. of the 15th, the wind came in strong gusts from the NW and the sea had already begun to rise. At 10.20 a. m. the wind backed to the W increasing in force all the time till at length it reached force 10 of the Beaufort scale; it was then that several houses were blown over, coconut trees uprooted and large limbs torn from many of the trees. At 11 o'clock some of the tiles were blown from the roof of the observatory. At 2 p. m. the barometer continued to fall rapidly while the wind reached force 11, so that many houses were destroyed either by the force of the wind or by coconut palms falling on them. 2.50 p. m. was the time of the barometric minimum 716 mm. after which the mercury began to rise rapidly. The force of the wind decreased for a few minutes and then it began to blow with hurricane force from the SW. Although there were five of us trying to

[1] It is to be remarked that when Mr. Cogan was writing this letter he was not aware of the instrumental error of his barometer (+2.5 mm.). It is possible, however, that the barometer at Hinunangan had a similar error.

keep shut the window that looked to the S; nevertheless it was finally blown in by the violence of the storm. At length being tired out by the constant battle against the elements and numbed by the cold and rain and seeing also that the waves were rising every moment we waded through water up to our knees to the comandancia.

On the following morning we saw that about 80 per cent of the houses had been blown down. In the barrio of Agbao all the houses near the seashore were either destroyed or greatly damaged by the waves. In Amparo there was an inundation and it is said that many persons were drowned.

It may be well here to say something on the destructive area of the typhoon in Leyte and the effects of the storm in that region.

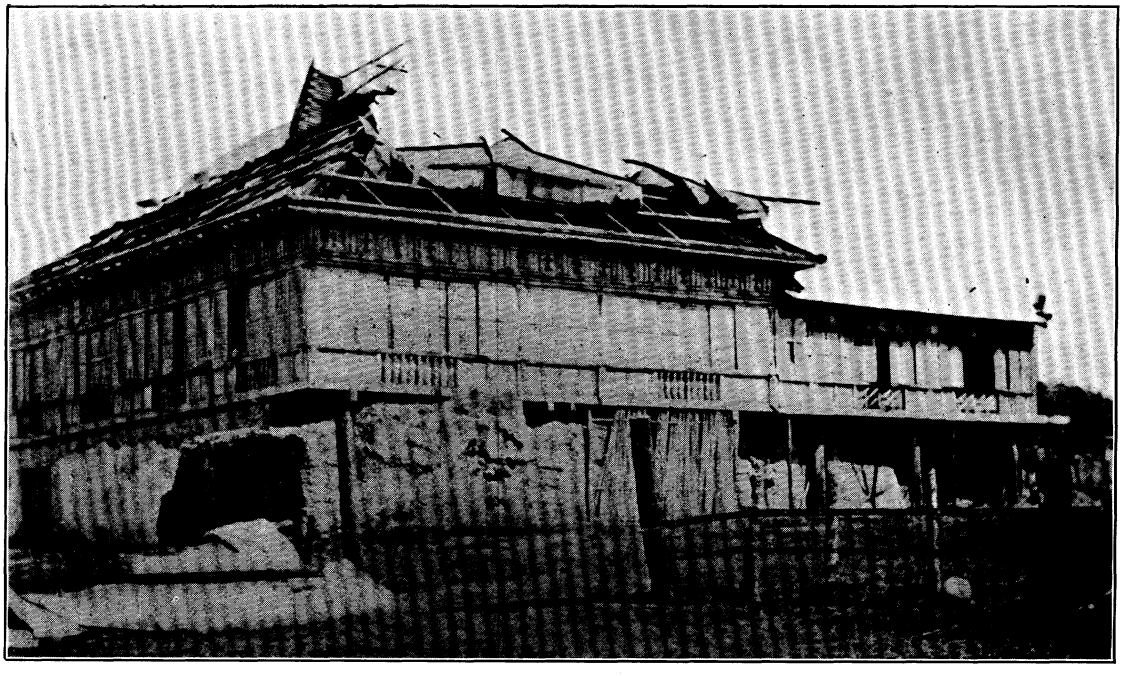
According to the official statistics with which we have been supplied from almost all the towns of Leyte, through the diligence of Sr. Perfecto Paulino, observer at Tacloban, the destructive area of the storm to the north of the track can be fixed as extending beyond Abuyog in the eastern part of Leyte and beyond Baybay in the west. In Dulag, Burauen, Ormoc etc. etc. the losses and damage caused were but of slight importance. Whence it may be inferred that the destructive area of this typhoon had a radius of 30 to 40 miles to the north of the track. The same may be said with regard to the area in the southern part of the track, for according to the report of the observer of Surigao, given above, the effects of the storm in Placer and Gigaguit, towns situated to the south of this station and distant some 35 miles from the vortex, were very slight compared with the damage done in Dinagat and Surigao. Of course it is clear that the destructive violence of the typhoon throughout the southern part of Leyte was greater, the nearer the place was to the vortex. All the towns within a radius of 20 miles from the storm centre, describe their losses as incalculable and their situation after the passage of the storm as horrible. In some towns as Matalom, Hinungayan, Liloan, Cabalian, Sogod, etc., situated in or very near the path of the vortex, it is said that practically everything was destroyed, including buildings of strong materials, such as the city hall, church and convent, etc. The area of complete, or almost complete, devastation had apparently a radius of from 10 to 15 miles extending in the north as far as Inopacan on the west coast of Leyte, and beyond Hinunangan on the east coast, and in the south taking in a great portion of Panaon island.

Colonel Rivers in a report which he wrote to General Bandholtz, after having visited the districts of Leyte affected by the storm describes the aspect of the towns in Panaon and around the Sogod bay in these terms:

> Panaon and all Sogod Bay can be called devastated area. The general aspect of these towns reminds one of towns stricken by the Taal explosion, excepting-of course-the loss of life and the ashes. Damage is much the same on the west coast up to Inopacan, and on the east coast up to Hinunangan. Bancas and other native craft washed ashore generally. Many of these will be floated and repaired.
>
> * * * * * * *
>
> Between 80 and 100 persons perished from drowning, on the steamers and ashore, by being crushed under houses or by landslides, which were numerous on the steep rugged hillsides, deforested, surrounding the bay. Had the storm passed at night the loss of life would have been very heavy.
>
> * * * * * * *
>
> Storm evidently passed a little to the north of Liloan and between Banday and Malitbog.

The number of deaths mentioned town by town in the official statistics reaches 71, though no information could be obtained from a few towns and villages. General Bandholtz in a report to the Executive Secretary puts the number at 75, which was the number of bodies found. Consequently the estimate made by Colonel Rivers of from 80 to 100 deaths would appear to be fairly accurate. In Plates VIII and IX are reproduced views of Cabalian and Hinunangan taken after the storm.

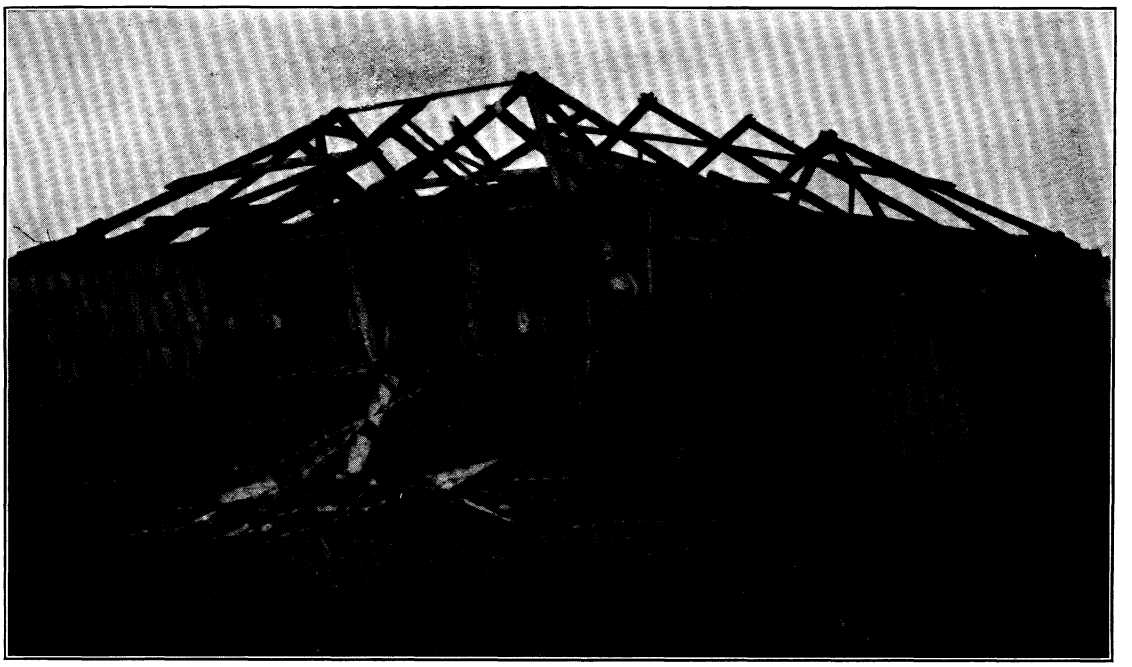
The Residence of Mr. Apolonio Escaño at Cabalian.



The Convent of Cabalian.

THE TYPHOON OF LEYTE AND CEBU, OCTOBER 15, 1912.—EFFECTS OF THE TYPHOON IN LEYTE.

The School of Hinunangan.



The Municipal Building of Hinunangan.

THE TYPHOON OF LEYTE AND CEBU, OCTOBER 15, 1912.—EFFECTS OF THE TYPHOON IN LEYTE.

The typhoon in the Camote Islands and Bohol.—According to the observations made in Maasin it would appear that the typhoon left the Island of Leyte between 3 and 4 p. m. of the 10th. The vortex evidently passed at that time over some point on the coast south of Bato and north of Maasin because in Bato the winds veered from N to E and in Maasin they backed from NW to SW. Hence the Observatory could not have been more accurate than it was, when it sent out during the afternoon of the 15th the following typhoon warning:

October 15, 4 p. m.: The typhoon is situated this afternoon between Leyte and Cebu Islands, moving west.

As the vortex passed almost equidistant between the Camote Islands and Bohol, that is about 10 miles from each, it is easy to understand that they must have felt the destructive effects of the storm, especially the southern portion of the Camotes and the north of Bohol. In a report of the Governor of Cebu, Sr. Manuel Roa, to the Governor-General, we find the following details with reference to the effects of the typhoon in the two principal towns of the Camotes, Tudela and San Francisco:

Tudela.—Two-thirds of the houses were completely destroyed and all the sown fields and plantations rendered quite useless. The municipal buildings situated in the barrio of Poro suffered greatly. The schoolhouse of Tudela was unroofed and the city hall which was in course of construction was razed to the ground.

San Francisco.—Loss of life—15 bodies were found and buried. Six people were saved as they were being carried away by the current. They were apparently from some islets between Cebu and Bohol. The schools of the town and of all the barrios, the city hall, and 542 houses were destroyed.

General Bandholtz in a report to the Executive Secretary states that "on Camote Islands 25 bodies were recovered that were not of inhabitants of those islands and that there were also 25 castaways."

With regard to the Island of Bohol we have received through Sr. Francisco Burgos, our observer at Tagbilaran, complete statistics of the losses caused by the typhoon in each of the towns of that province. The total monetary losses, including shipping interests, roads, public and private property, amounted to ₱229,578, while the loss of life was 54 distributed as follows: Calape, 1; Candijay, 3; Jetafe, 34; Loay, 2; Mabini, 1; Talibon 10; and Ubay, 3.

General Bandholtz in his report of October 30 mentions only 10 deaths, but, as he remarks, information had not come in from several towns when he wrote it. The statistics sent by our observer were dispatched on November 7.

The typhoon in Cebu.—The Observatory sent this urgent message to the observer at Cebu on the 15th at 11.25 a. m.:

The typhoon will probably cross the north part of the Island of Cebu to-night.

The same warning was repeated to as many as asked for information, viz, the Superintendent of the Eastern Extension Company's station, the captain of the steamship *Kaifong* which happened to be in the port of Cebu at the time, etc. The observer at Cebu, Sr. Domingo de los Angeles, gave all the publicity possible to this alarming warning of the central office, and town criers were sent round through the capital and the other towns and barrios of the neighborhood.

Unhappily the inhabitants of Cebu paid but scant attention to these warnings, because they were persuaded, as they said, that typhoons did not pass over Cebu. If proper precautions had been taken there, as was done in other parts, the number of victims would not have been anything like so great as it actually was. Another factor which helped to make this number so much greater in Cebu than in Leyte, where the typhoon was much more intense, was that the vortex passed over Cebu

toward midnight, whereas in Leyte it passed during the daytime. These are the two reasons adduced by almost everyone to account, in some way, for the great loss of life in the Island of Cebu. On the other hand the storm, though intense, might have been much worse, as it actually was when it entered the Archipelago on the morning of the 15th. General Bandholtz says this explicitly: "* * *. In any event the intensity of the storm seemed gradually to diminish as it proceeded westward."

The warning sent by the Observatory before midday of the 15th could not have been more exact in all particulars, for, as a matter of fact, the vortex entered Cebu to the north of the capital at 10 p. m. of the same day. Below are given the observations made by our observer at Cebu during the passage of the typhoon, and in Plate V is reproduced the barographic curve registered in the same station. From a comparison of these observations and curve with those of Maasin it is evident that the intensity of the storm was much less in Cebu than in Maasin.

METEOROLOGICAL OBSERVATIONS MADE AT CEBU, OCTOBER 14 TO 16, 1912.

Date and hour.	Pressure.	Wind.		Lower clouds.		Weather.	State of sea.	Rainfall.
		Direction.	Force.	Form.	Direction.			
October 14:	*mm.*		*0–12.*					*mm.*
6 a. m.	755.32	Calm		Cu.-N.	N	o, r	Smooth	[a] 5.6
2 p. m.	53.02	Calm		Cu.-N.	N	o, r	Smooth	14.4
10 p. m.	53.81	W	1	N.		o, r	Tide-rips	51
October 15:								
2 a. m.	52.34	W	1	N.		o, r	Tide-rips	
4 a. m.	51.70	NW	1	N.		o, r		
6 a. m.	51.30	NW	1	Cu.-N.	NNE	o, r	Smooth	27.4
7 a. m.	52.14	NW-NE	1	Cu.-N.	NNE	o, r		.8
10 a. m.	50.62	NW	2	Cu.-N.	N	o, r	Moderate	3.5
Noon	48.28	NNW	2-3	N.	NNE	o, r		9.4
1 p. m.	47.21	NW	4-5	Cu.-N.	N	o, p	Rough	
2 p. m.	46.51	NNW	3-4	N.	N	o, r, q	Rough	13.5
3 p. m.	44.76	NNW	4-5	N.	N	o, r, q	Rough	6.6
4 p. m.	44.87	N	5-6	N.	N	o, r, q	Rough	
6 p. m.	43.66	NW	5-6	N.	N	o, r, q	Rough	18.3
7 p. m.	42.12	NW	7-8	N.		o, r, q	Rough	
8 p. m.	40.98	NW	8-9	N.		o, r, q		
9 p. m.	38.14	NW-NNW	9-10	N.		o, r, q, u		
10 p. m.	35.86	WNW-W	9-10	N.		o, r, q	Rough	
10:15 p. m.	35.06	W	10-11	N.		o, r, q	Rough	
11 p. m.	37.48	W-WSW	10-11	N.		o, r, q	Rough	
Midnight	39.47	WSW-SW	10-11	N.		o, r, q	Heavy	
October 16:								
1 a. m.	41.07	SW-SSW	10-11	N.		o, r, q	Heavy	
2 a. m.	42.36	SW	10-11	N.		o, r, q	Heavy	
3 a. m.	44.44	SW	9-10	N.		o, r, q	Heavy	
4 a. m.	45.54	SW	8-9	N.		o, r, q	Heavy	[b] 228.6
6 a. m.	48.32	SW	7-8	Cu.-N.		o, r, q		19
8 a. m.	49.82	SW	7-8	Cu.-N.	SW	o, r, q	Rough	5.6
9 a. m.	50.57	SW	7-8	N.-cf.	SW	o, r, q	Rough	7.6
10 a. m.	51.39	SW	6-7	N.	SW	o, p	Rough	7.4
2 p. m.	51.63	SW	3	Cu.-N.	SW	o, r, q	Moderate	9.7
6 p. m.	53.71	SW	3	Cu.-N.	WSW	o, q	Long, rolling	
10 p. m.	55.66	SW	2-3	S.-Cu.		o, p	Long, rolling	.5

[a] Rainfall from 10 p. m. to 6 a. m.

[b] This is an estimate made by the observer, as the rain gauge was blown down by a NW gale at about 7 p. m. of the 15th.

The barometric minimum in Cebu was 735.06 mm. registered at 10.15 p. m. of the 15th with stormy winds from the W.

To give some idea of the way in which this typhoon broke over the capital and the towns and barrios in the immediate vicinity we copy the report sent in by our observer:

The typhoon of the 15th and 16th of the present month passed close to the N of this city at a distance which I estimate at about 12 to 15 miles judging from the barometric minimum and the damage wrought by the storm. In the table of observations given above are included the heights of the barometer during the passage of the typhoon, the direction and force of the wind, and the quantity of rain which fell during the time that the rain-gauge could be kept upright, for during a strong gale it was blown away. The other instruments were saved, though they all got very wet, as did also all the office papers and books; for though the wind from first to last was a descending one, it was reflected from the ground upwards and thus loosened the nipa roof, which thus gave free entry to the torrential rains that were falling. The same thing happened to many houses of mixed mate-

rial. It was a most anxious and terrible night! The wind made a complete change of direction from NNW to SSW and S.

The greatest destruction took place in the zone of houses of mixed material, which comprises the most of the town; there was loss of life due to the wrecks of steamers, barges and lorchas in the port itself; many houses were washed away by the strong currents of the flooded esteros, for the water came down from the mountain like a torrent, and this, together with the high tide and the force of the storm, simply smashed the warehouses to pieces and washed out the streets near the new port. Although in the higher parts of the town the water was not very deep, in the lower such as the barrios of Pasil, Ermita and the town of San Nicolas many lives were lost in the flood.

All along the coast as far as Mandaue and Consolacion many bodies were found, but a great number of them could not be identified and it is not known whence they came unless from the wrecked boats and barges and the flooded regions.

The railway was badly damaged in the north where the floods carried away bridges and embankments. In the city of Cebu itself all the telegraph, telephone, and electric-light wires are down.

We also take from the official report of Mr. A. J. Robertson, senior inspector, the following interesting paragraphs which give a very good idea of the intensity of the storm in the city of Cebu:

This province was visited on the night of the 15th instant with the most destructive storm in its history. Warning had been given early on the morning of that date and patrols were sent out during the day to the nearby barrios warning the people to secure their houses and effects.

The wind, which had been gusty in the afternoon, struck with violence about 7.30 p. m. and continued with increased force until about 4 a. m. of the 16th. It was accompanied by a small tidal wave which submerged the lower end of the city under from 4 to 6 feet of water and did much damage to property and caused considerable loss of life.

At about 8 p. m. the undersigned sent patrols around to the neighboring barrios to aid those in distress and to bring to the cuartel such persons as were homeless. By midnight between 400 and 500 had been brought in: but as the roofs of the cuartel and both sets of officers' quarters had been partially blown off, the shelter we were able to give was not of the best. However, a blazing fire was maintained in the company range and hot coffee was prepared and furnished.

By 10 o'clock it was most difficult to get about due to the force of the wind and flying débris. Lieutenant Reyburn, who was accompanying Dr. Pond and the undersigned with some men of the Second Company was lifted from his feet and hurled about 20 feet. The roof and rear part of the S. I. S. quarters were blown off and carried completely over the house and about 60 feet into the road. It took the whole company to move the débris the next morning.

By daylight the wind, although still blowing furiously, had abated sufficiently to permit getting about without serious danger and patrols were sent out to all parts of the city to do what they could and to gather the dead bodies, some 20 of which were picked up by the Constabulary alone. The city presented a gruesome sight; practically all the houses of light material being wrecked and those of stronger material unroofed.

The following details are taken from the report of the governor of the province, Sr. Roa:

The general damage caused by the baguio is estimated at from two to four million pesos. Of course this damage may be reduced if some merchandise damaged may be saved. The loss of merchandise is chiefly recorded in bodegas. The damage of merchandise in small tiendas is comparatively small. A great deal of it has been saved, it being in good substantial houses. The greatest loss has been in the shipping line. Practically none was saved. From reports so far received, the zone of damage caused by the baguio seems to extend from Borbon in the north to Naga in the south. On the other coast so far reported the damage is at Asturias and Toledo. Not only material losses have been reported but also casualties. Toledo has been especially damaged. In consequence the road to Toledo has practically been destroyed or obstructed.

In the city the number of bodies recovered does not, so far, reach a 100. The greatest loss in buildings has been in small houses. There have been whole barrios of nipa houses overthrown. The important street on the wharf is partly destroyed.

As to the public buildings practically none has suffered damage.

From what Sr. Roa says at the end of his report with regard to the little damage done to the public buildings and what we have heard from eye witnesses, amongst them Mr. J. V. Sidford, captain of the steamship *Kaifong*, it is evident that the force of the wind, at least in the city of Cebu itself, was not so very extraordinary, compared with

that observed in the vicinity of the center of other well-developed typhoons of great intensity. Hence, in the various meteorological reports received from Cebu, the maximum force of the winds was noted as 11 of the Beaufort scale.[1]

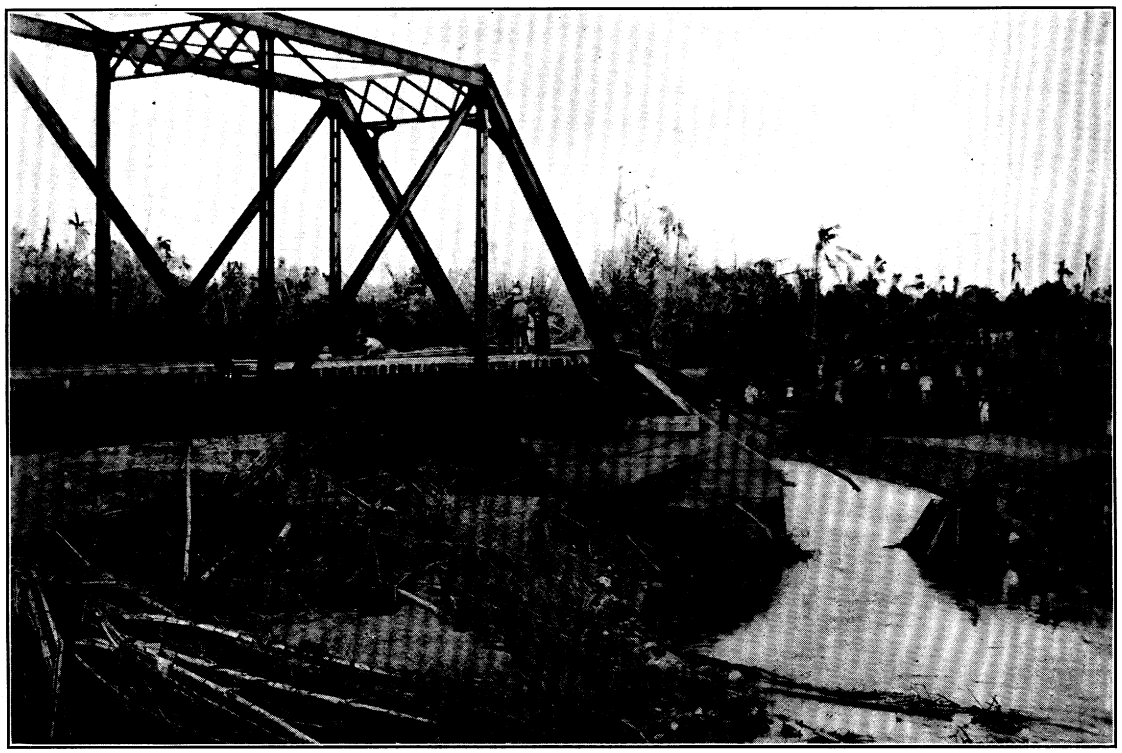
Having carefully examined the register of wind velocities obtained in that station, we find that the maximum velocity for a whole hour was registered from 11 to 12 p. m. of the 15th, and that it amounted to 80 kilometers (49.7 miles), a velocity which corresponds to number 9 of the Beaufort scale. Taking smaller intervals of five minutes, it was found that from 11.15 to 11.20 p. m. of the 15th, and from 1.15 to 1.20 a. m. of the 16th the velocity of the wind was 7.7 kilometers (4.8 miles) or almost 58 miles per hour, which is number 10 of the scale. These results have been compared with those obtained in the station of Surigao, where, according to the anemograph, the wind had a maximum velocity of 72 miles per hour (11 of the Beaufort scale). The force of the wind in Cebu, judging from its effects, does not appear to have been, to say the least, less strong than in Surigao, and hence we are forced to the conclusion that the registering anemograph in Cebu was not trustworthy, either on account of some defect of the mechanism during the time the wind was blowing, or owing to some defect of installation. For this reason we have suppressed the velocity of the wind in miles per hour in the table given above, and inserted in its place the force of the wind according to the scale 0–12 as it was estimated by the observer. According to this estimate founded on the effects of the wind, it would appear that the wind blew with the force 10–11 for several hours, i. e., at a velocity of from 60 to 70 miles per hour. The captain of the *Kaifong* gives in his report a maximum velocity of from 11 to 12—that is, from 70 to 80 miles per hour. Hence, it would appear certain that the wind did not acquire the full force of number 12 of the Beaufort scale (more than 75 miles an hour), except perhaps in isolated gusts of rather short duration.

From all this it follows that but for the truly extraordinary torrential rains which accompanied the vortex and which were the cause of the great floods, the effects of this typhoon in Cebu would not have been much greater than those of an ordinary typhoon.

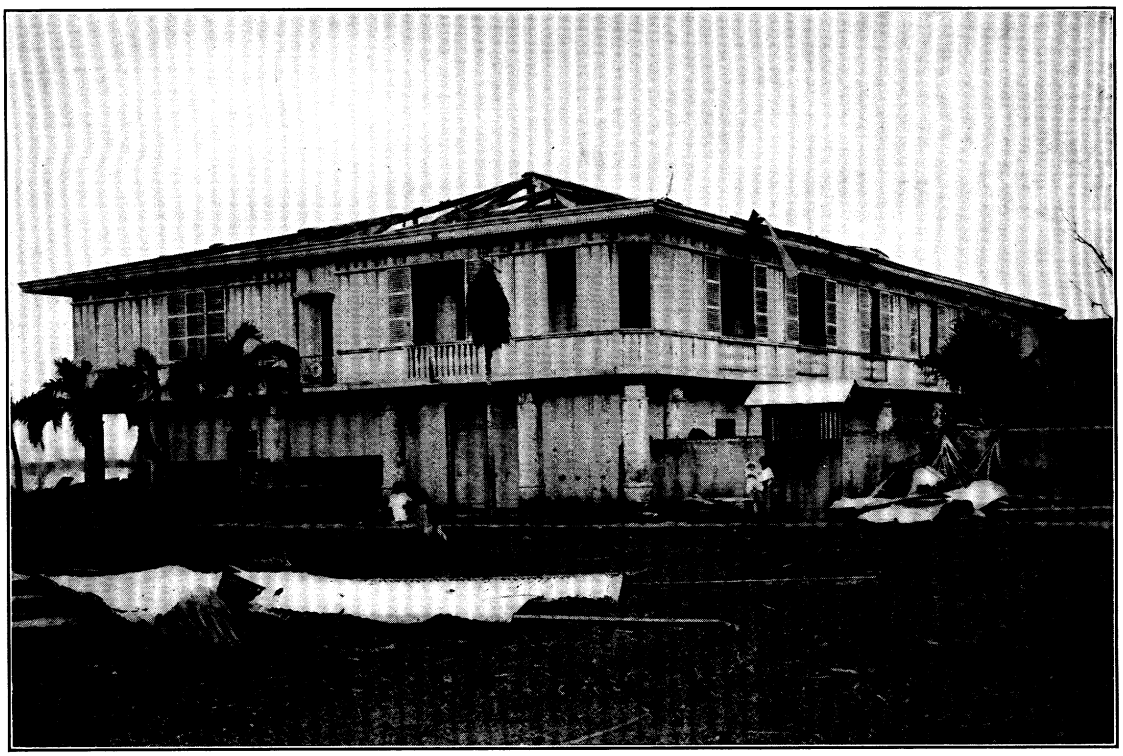
It is greatly to be deplored that the force of the wind carried away the rain gauge of our station at about 7 p. m. of the 15th, for we are thus deprived of most valuable data for the discussion of the storm. It seems to us that the estimate made by the observer, and given above in the table is not high enough. What would have been the maximum hourly rainfall recorded in Cebu it is impossible to say. It is likewise impossible to

[1] For the convenience of those of our readers who are not familiar with this scale we give the meaning of each of the numbers of the scale.

Number and designation.	Velocity.		
	Miles per hour.	Kilometers per hour.	Meters per second.
0=Calm	3	4.8	0- 1.3
1=Light air	8	12.9	1.4- 3.6
2=Light breeze	13	20.9	3.7- 5.8
3=Gentle breeze	18	29.0	5.9- 8.0
4=Moderate breeze	23	37.0	8.1-10.3
5=Fresh breeze	28	45.1	10.4-12.5
6=Strong breeze	34	54.7	12.6-15.2
7=High wind	40	64.4	15.3-17.9
8=Gale	48	77.2	18.0-21.5
9=Strong gale	56	90.1	21.6-25.0
10=Whole gale	65	104.6	25.1-29.1
11=Storm	75	120.7	29.2-33.5
12=Hurricane	90	144.8	33.6-____



Approach to Railway Bridge in the City of Cebu Washed Away by Flood.



The Mandawe Convent (Cebu Island).

THE TYPHOON OF LEYTE AND CEBU, OCTOBER 15, 1912.—EFFECTS OF THE TYPHOON IN CEBU ISLAND.

The Naval Club.

Calle Sancianco.

THE TYPHOON OF LEYTE AND CEBU, OCTOBER 15, 1912.—EFFECTS OF THE TYPHOON IN THE CITY OF CEBU.

Effects of the Typhoon in the City of Cebu.

Effects of the Typhoon in the City of Cebu.

THE TYPHOON OF LEYTE AND CEBU, OCTOBER 15, 1912.

know the total amount of rainfall for the twenty-four hours ending at 6 a. m. of the 16th. Fr. Saderra assures us that judging from the effects of the floods in the bridges, public roads, railways, etc. throughout the Island of Cebu, all showing evident signs of enormous masses of water coming down from inland and not from the sea, the rain that fell there during the storm must have been something incredible and really exceptional and unexpected even in the most severe typhoons.

What has been said will no doubt be sufficient to enable our readers to form some idea of the effects of this typhoon in the city of Cebu, and the photographs reproduced in Plates X, XI, and XII will help to the same end.

It would be too long were we to detail now all the damage wrought by the storm in each of the towns of such a populous Island as Cebu, and hence we content ourselves with a few words as to the point at which the vortex entered the island, the extent of the destructive area on both coasts, and the number of victims of that memorable night of the 15th to the 16th of October.

As to the first, or point of entry, the data collected by our observer during a trip along the eastern coast to the north of the island, appear to make it certain that the vortex entered between Danao and Liloan at a distance of about 11 miles from Cebu. The barometric minimum in Danao was 728 mm. and at Liloan 730 mm. (the barometers of both places are, in the judgment of the observer of Cebu, reliable). In Liloan the winds changed from NW to W, SW and S, while in Danao they blew from NNW, N, and NNE before the passage of the vortex, and from SE, S, and SW afterwards. The direction in which houses, trees, etc. fell in Maslog, a barrio close to the south of Danao, indicates that the hurricane winds came from the E. These data suffice to prove our assertion: but another convincing proof is, that both in Danao and Liloan a relative calm lasting for about ten minutes was noted at the hour of the barometric minimum, while in the barrios situated between these two places the length of the calm was greater, being as much as half an hour in a few barrios to the S of Compostela and even in the southern end of Compostela itself.

The following conclusion therefore deduced from these data by the observer of Cebu seems fairly accurate:

> In view of these facts which I learned on a trip from Liloan to Danao, and from the sight of the objects destroyed by the storm, I think that the typhoon entered the Island of Cebu at the barrio of Cutcut (Cotcot) and embraced a zone which extended from the barrio of Jubay as far as the entrance of Compostela. The towns of Liloan and Danao were both included in the area of relative calm.

With regard to the extent of the destructive area of this typhoon in passing over Cebu, it is deduced from an examination of all the reports we have seen, that it stretched on the east coast from the town of Borbon in the north to Naga in the south, and on the west coast from Tuburan to Aloguinsan, both inclusive. Other towns situated beyond these limits suffered relatively little. As the towns above mentioned, including their barrios to the north or to the south respectively, are some 50 miles apart, it may be said that the area of destruction in Cebu had a radius of about 25 miles. The towns over which the typhoon broke with most fury are Mandaue and Toledo.

The number of lives lost in the Island of Cebu seems to oscillate between 350 and 400. Most of the lives were lost by drowning. Governor Roa in a communication of October 28 said that, without reckoning those of the capital, the number was 221, and as

there were 127 victims in the capital, we have a total of 348. We have gone over each of the lists of the different towns of the province in the official reports and we obtain a total of 364 according to some reports and 372 according to others, and hence we feel justified in saying that the number of victims oscillates between 350 and 400. There is of course the possibility that many bodies may not have been found, so that in reality the number of those who lost their lives in the Island of Cebu alone may reach 500.

The towns which counted the most victims were: Cebu 127, Toledo 116, and Mandaue 20.

The typhoon in the Islands of Negros and Panay.—In the ordinary weather report for the 16th it was stated that—

> The typhoon of the Visayas was situated this morning in the neighborhood of the northern part of Cebu and Negros Islands moving W or WNW.

And in a typhoon warning sent out at 3.15 p. m. of the same day, the probable inclination of the track to the N was announced:

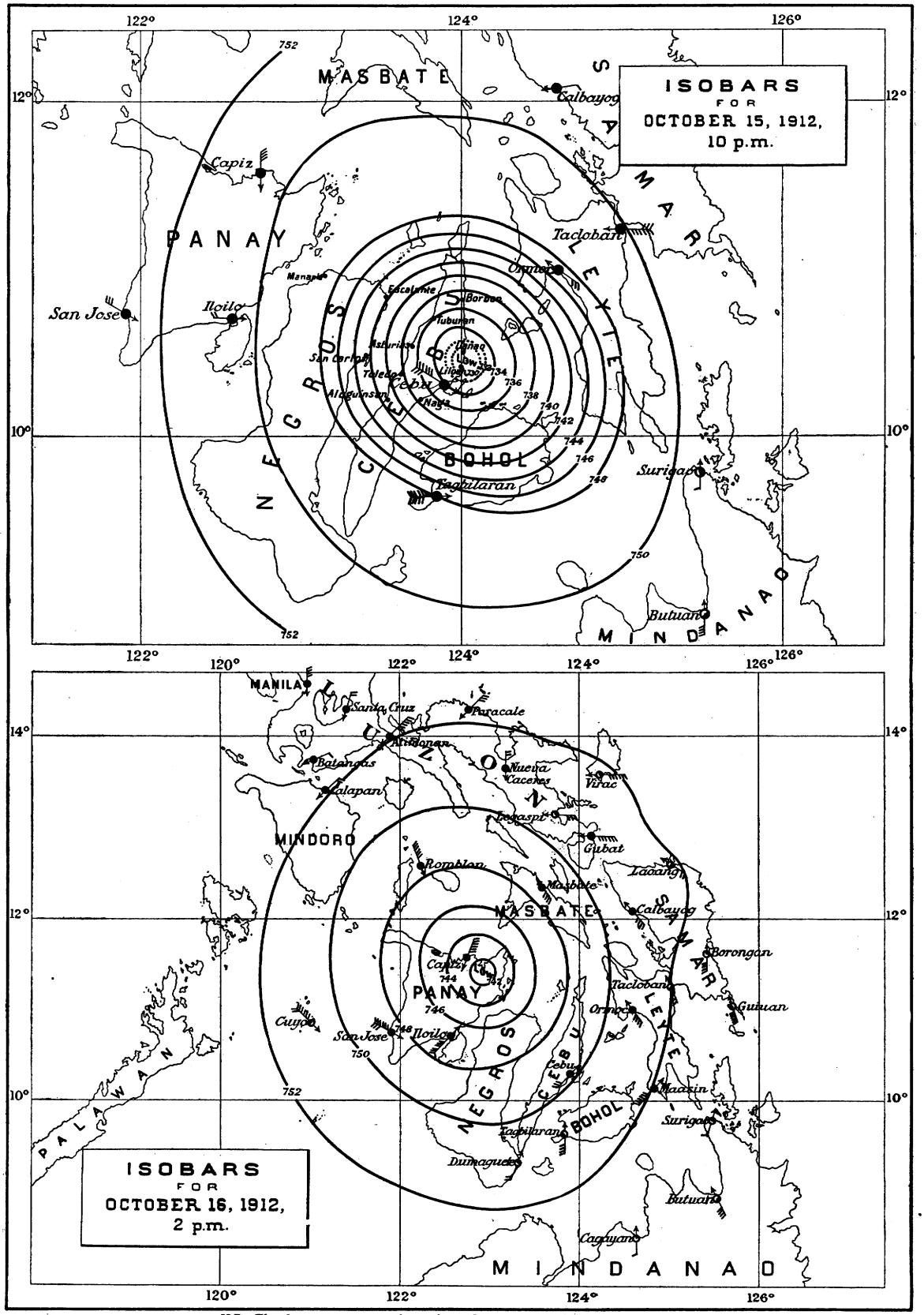
> October 16, 3.15 p. m.: The typhoon is situated this afternoon over Panay to the north of Iloilo moving very slowly. It may be inclining its track to the north. Navigation still dangerous between Luzon and Panay.

We have been able to obtain but very little data from the north part of the Island of Negros to help us in plotting the track of the typhoon across that island: nevertheless, as we know that the winds in Manapla (NW coast of Negros) backed from N to W, and that the effects of the typhoon were felt principally between Escalante and San Carlos, we take it as very probable that the vortex moved to the NW by W from Cebu to Negros and traversed this latter island by the south of Escalante and the north of San Carlos, though much nearer to Escalante, for later it passed by the north of Manapla to the northeast part of the Island of Panay.

That the typhoon did actually continue to incline more and more its track to the north, as was indicated by the Observatory, is made evident by an examination of the observations made in Iloilo and Capiz, stations situated in the south and north of the Island of Panay. If the track had continued straight to the W as at the beginning, the vortex would have passed close to Iloilo whereas it passed by the north at a distance of some 50 miles. And hence though for the two preceding days the typhoon had threatened the city, the effects were comparatively slight. Fortunately also for Capiz and the other towns in the north of Panay, the typhoon was not only inclining its track to the north but at the same time was diminishing in intensity as it advanced slowly in its movement of translation. That this may be seen more clearly we have given in Plate XIII the isobars of 10 p. m. of the 15th and of 2 a. m. of the 16th. If these two sets of isobars be compared it will be perceived how different was the form and the development of the typhoon in Panay from what it was when the vortex reached the east coast of Cebu. A change can also be seen if the isobars of 10 p. m. and 2 p. m. of the 15th be compared. (Plates VII and XIII.)

Below we give some of the observations made in Iloilo and Capiz on the 15th, 16th, and 17th. In Capiz there was an absolute calm which lasted for an hour and a half though the barometric minimum was not lower than 740.9 mm. This is, of course, a convincing proof of the deformed state of the vortex after having crossed the Islands of Leyte, Cebu, and Negros.

Plate XIII.



N.B.- The barometric readings have been reduced to standard gravity.

METEOROLOGICAL OBSERVATIONS FOR OCTOBER 15 TO 17, 1912.

Iloilo.							Capiz.					
Date and hour.	Pressure.	Wind.		Weather.	Rainfall.		Date and hour.	Pressure.	Wind.		Weather.	Rainfall.
		Direction.	Force.						Direction.	Force.		
	mm.		*Miles p. h.* *0–12.*		*mm.*			*mm.*		*0–12.*		*mm.*
October 15:							October 15:					
2 a. m.	754.59	NE	4.2 1	o, d			4 p. m.	752.36	N	1	o, r	[d] 86.1
6 a. m.	54.09	NW	4.8 1	o, r	[a] 21.1		6 p. m.	52.67	N	3	o, d	6.1
10 a. m.	54.29	NW	4.8 1	o, d	2.3		8 p. m.	53.21	NNW	3	o, r	6.9
11 a. m.	53.28	NW	3 1	o, d			10 p. m.	52.52	N	4	o, r, q	2
1 p. m.	52.81	NW	4.8 1	o, r	6.1		Midnight	52.11	N	5	o, r, q	11.4
2 p. m.	51.94	W	3.6 1	o, r	5.8		October 16:					
4 p. m.	52.19	NW	9.6 2	o, r	14.7		2 a. m.	50.47	NNE	5	o, q	10.5
6 p. m.	52.58	NW	12 2	o, r	19.8		4 a. m.	50.11	NNE	6	o, r, q	
8 p. m.	52.72	NW	16.8 3	o, r	4.8		6 a. m.	50.68	NNE	4	o	[e] 8.9
10 p. m.	52.44	W	10.8 2	o, r	7.6		7 a. m.	50.87	N	2	o, d	
11 p. m.	51.62	W	12 3	o, r	5.1		8 a. m.	51.15	NE	4	o, r, q	2.5
Midnight	51.25	W	11.4 2	o, r	7.4		9 a. m.	50.42	NNE	4	o, d, q	.8
October 16:							10 a. m.	50.01	NNE	4	o, r, q	.3
1 a. m.	50.26	WSW	12 2	o, r	9.4		11 a. m.	48.79	N	5	o, r, q	3.3
2 a. m.	49.86	NW	15.6 3	o, r			Noon	47.89	NNE	3	o, r, q	2.8
3 a. m.	49.53	W	15.6 3	o, r			1 p. m.	46.39	NNE	3	o, r, q	4.1
4 a. m.	48.78	NW	14.4 2	o, r			2 p. m.	44.39	NNE	6	o, r, q	3
5 a. m.	48.73	NW	14.4 3	o, r			3 p. m.	41.35	[f] N	2	o, d	2
6 a. m.	50.16	NW	15.6 3	o, r	[b] 53.3		4 p. m.	40.95	Calm		o	.5
7 a. m.	50.22	WNW	14.4 3	o, r	3.8		5 p. m.	41.85	SW	1	o, d	.3
8 a. m.	50.12	WNW	18 3	o, r	5.8		6 p. m.	43.38	SW-SE	7	o, r, q	31.7
9 a. m.	50.37	W	15.6 2	o, r	1.8		7 p. m.	46	SW-SE	8	o, r, q	6.3
10 a. m.	50.46	W	14.4 2	o, r	10.4		8 p. m.	47.86	SW-SE	7	o, r, q	5.1
11 a. m.	50.21	SW	16.8 3	o, r	14		9 p. m.	49.51	SW-SE	6	o, r, q	5.6
1 p. m.	49.13	SW	22.8 5	o, r, q	26.7		10 p. m.	51.04	SW	2	o, r	6.1
2 p. m.	48.55	SW	37.2 7	o, r, q	23.1		October 17:					
3 p. m.	48.85	SW	35 7	o, r, q	10.7		2 a. m.	51.12	S	2	o, d	7.6
4 p. m.	49.25	SW	40 7	o, r, q	8.6		6 a. m.	53.83	S	2	o, d	1.5
5 p. m.	50.18	SW	40.8 8	o, r, q			10 a. m.	56.39	S	2	o	1.3
6 p. m.	50.55	SW	24 5	o, r, q	19.3		2 p. m.	55.59	S	1	o	.3
10 p. m.	52.33	SW	24 5	o, r, q								
October 17:												
2 a. m.	52.39	SW	24 5	o, r, q								
6 a. m.	55.61	SW	17.1 3	o, r, q	[c] 78							
10 a. m.	57.62	SW	17.1 3	o	6.9							

[a] Rainfall from 10 p. m. to 6 a. m.
[b] Rainfall from 1 to 6 a. m.
[c] Rainfall from 6 p. m. to 6 a. m.
[d] Rainfall from 2 to 4 p. m.
[e] Rainfall from 2 to 6 a. m.
[f] At 3.05 p. m. winds abating. From 3.15 to 4.40 p. m. absolute calm.

General Bandholtz in a telegram to the Executive Secretary, dated October 25, said: "The typhoon appears to be losing strength in crossing Tañon strait (between Cebu and Negros)." In the report of Maj. J. F. Quinn, Philippine Constabulary, after a long description of the effects of the typhoon on the western coast of Cebu and eastern coast of Negros, it is stated: "The storm was most destructive on the coast of Cebu between Tuburan and Aloguinsan. North and south of those places it was felt less severely * * *. The storm was much less violent on the coast of Negros (than on the coast of Cebu) and did no damage of any extent except at San Carlos and Escalante."

It was in Escalante that the steamship *Tayabas* of the Compañía General de Tabacos de Filipinas was wrecked. Major Quinn gives an account of this wreck in the report mentioned above, in these words:

> The *Tayabas* is sunk in 40 feet of water just south of the mouth of the Danao River, which place she was trying to make when sunk. Her masts are broken off, but their ends are visible at low water. Of 51 passengers and crew aboard, 19 were saved and the remainder lost. Thirteen bodies have been recovered and buried by the municipal authorities of Escalante. The wreck has been visited by the Tabacalera Company's launches and a diver has been sent down to examine the interior. The body of an American girl, Miss Lambert, of Iloilo, was recovered two days after the wreck and taken to Iloilo by her father for burial there.

Besides these, there were two other victims in San Carlos, mentioned in the same report. All this has reference to the eastern coast of Negros. With regard to the western coast, we have before us a telegram from Mr. John B. Bennet, district director,

Philippine Constabulary, dated October 23, in which it is stated that the total number of deaths in the towns on the western coast reaches 54, besides 24 people who have disappeared. But in a report sent two days after by the same Mr. Bennet to the Executive Inspector in Manila, mention is made of only 16 persons drowned and 20 disappeared.

There were also some victims of the typhoon in Panay, over and above the material losses which may be supposed. According to the official statistics sent to us by the observer of Iloilo, there were in the whole province of Iloilo 26 deaths—15 of them in the town of San Joaquin being crushed to death in the house where they lived by a landslide from Mountain Kangilidquilida. Inundations and the consequent effects were general throughout the whole Island of Panay, as they had been in the other islands crossed by the typhoon. In the Province of Antique there were seven typhoon victims. We have no information concerning the number of victims, if there were any, in the province of Capiz.

Further course of the typhoon as far as Indochina.—The Observatory in a typhoon warning sent out at 10.45 p. m. of the 16th said:

> October 16, 10.45 p. m.: The typhoon is now over the northwestern part of Panay Island moving apparently to WNW. Unless there is a new change in the direction of the storm, its center will pass by to-morrow morning very close to the southern part of Mindoro.

The next day it was seen that the typhoon had inclined a little more to the north than was supposed the previous night and hence was traveling to the NW, which would thus bring it to cross the central part of the Island of Mindoro. The Observatory consequently said on the morning of the 17th:

> October 17, 8.20 a. m.: The typhoon has inclined its track a little more to the north, its center being situated at present near or over Mindoro moving apparently NW by W.

We sent a list of questions to the various municipal presidents of Mindoro, and the following data were received which helped us to trace the track of the typhoon across that island. Not only in Calapan, but also in Pola and Pinamalayan, towns situated on the north part of the eastern coast of Mindoro, the winds veered from N to E, while in San Jose, Mangarin and Bulalacao, on the southeast and southwest coast of the island, they backed from N to W and SW. The vortex must therefore have crossed the centre of the island in its movement of translation to the NW by W. Moreover, the same was observed in Mamburao as in Capiz, viz, the calm lasted about two hours, with strong winds from the N and NE before, and SE after, the calm. Whence it follows that the vortex very probably passed close to that town, as we have supposed in the track of this typhoon (Plate V).

The typhoon left the Island of Mindoro and entered the China Sea at 2 p. m. of the 17th, and there it again inclined decidedly to the W and so reached Indochina near parallel 15° N. When once in the China Sea it increased its velocity of translation so considerably that in 45½ hours it travelled from Mindoro to Indochina, whereas in the Philippines it had taken about 55 hours to cover the distance between Dinagat and the west coast of Mindoro. From the numerous data, observations and barographic curves kindly placed at our disposal by M. G. Le Cadet, director of the Observatory of Phulien, we are able to fix the day and the hour when the vortex reached Indochina. The center of the typhoon passed very near Quang-Ngai (15° 08′ lat. N, 108° 50′ long. E) at 11.30 a. m. of the 19th, as may be deduced from the barographic curve reproduced in Plate V, and from the observations made in many stations along the Indochina coast. This typhoon entered Indochina at about the same point as the previous one of the 12–13th October, which came from the Balintang Channel (see the tracks of both these typhoons in Plate V.) M. Cadet gives the following details of the effects of these two typhoons in Quang-Ngai:

The station of Quang-Ngai has forwarded the following information of the damage caused by these two typhoons:

"Many houses of light materials were thrown down; some trees uprooted; a few brick houses destroyed and others damaged.

"Telegraph poles blown down and the line interrupted in many places.

"Three-quarters of the rice and corn crops destroyed, and the sugar-cane damaged."

The steamships *La Manche* and *Paul Lecat* were near the Indochina coast and south of the track when the typhoon passed, and the observations made on board both these steamers, were sent to us by the Directors of the Observatories of Phulien and Hongkong respectively, and they are given below. It is to be remarked that on these steamers the barometric minimum was registered some time before the vortex of the typhoon passed to the north. This was due to the fact that both steamers moved south or southeast to get away from the center.[1]

METEOROLOGICAL OBSERVATIONS IN THE CHINA SEA NEAR THE COAST OF INDOCHINA, OCTOBER 19, 1912.

	Steamer "Paul Lecat" (Captain Lancelin).						Steamer "Manche" (Captain Ch. Meric).					
Date and hour.	Position.		Pressure.	Wind.		State of sea.	Position.		Pressure.	Wind.		State of sea.
	Latitude north.	Longitude east.		Direction.	Force.		Latitude north.	Longitude east.		Direction.	Force.	
October 19:	° ′	° ′	*mm.*		*0–12.*		° ′	° ′	*mm.*		*0–12.*	
1 a. m	13 30	109 50	758.5	NNW	6				757.5	NNW	6	Rough.
2 a. m	13 40	109 53	57.5	NWbyN	7				56.5	NNW	6	Do.
3 a. m	13 50	109 55	57.2	NW	7				56.4	NNW	6	Do.
4 a. m	14	109 55	56.6	NWbyW	7		24 miles NEbyN Buffle Island.		55.5	NWbyN	7	Very rough.
5 a. m	14 10	109 55	54	NW	8	Rough			54	NW	7	Do.
6 a. m	14 20	109 55	53.2	WNW	9	do			52.5	WNW	7	Do.
7 a. m	14 05	109 55	53.2	WbyN	9	do			51.5	W	8	Do.
7.30 a. m							27 miles east Tanquan Point.		49.5	W	8	Do.
8 a. m	13 55	110	55	W	8	do						
9 a. m	13 54	110 05	56.5	WSW	7							
10 a. m	14	110 10	57.5	SW	7							
11 a. m	14 12	110 10	58.5	SSW	6							
Noon	14 23	110 10	58.8	S	6		14 30	109 56	55.7	SSE	8	Do.
4 p. m	15 17	110 15	59.2	EbyN	5		15 01	109 31	56.8	SSE	6	Do.

Exchange of warnings between Manila and Hongkong.—The Observatory of Manila sent, as usually, to the observatories of the Far East the following cablegrams with reference to this typhoon:

October 14, 8.45 a. m.: Typhoon E of the Visayan Islands, moving W or WNW.
October 14, 4.15 p. m.: Typhoon E of the Visayan Islands, moving W.
October 15, 10.55 a. m.: Typhoon over the eastern Visayas, moving W.
October 16, 11.58 a. m.: Typhoon over the western Visayas, moving W or WNW.
October 16, 10.35 p. m.: Typhoon over the western Visayas, moving WNW.
October 17, 8.20 a. m.: Typhoon near or over Mindoro moving WNW or NW.
October 18, 9.30 a. m.: Typhoon W of Luzon, more than 100 miles distant, moving WNW or NW.

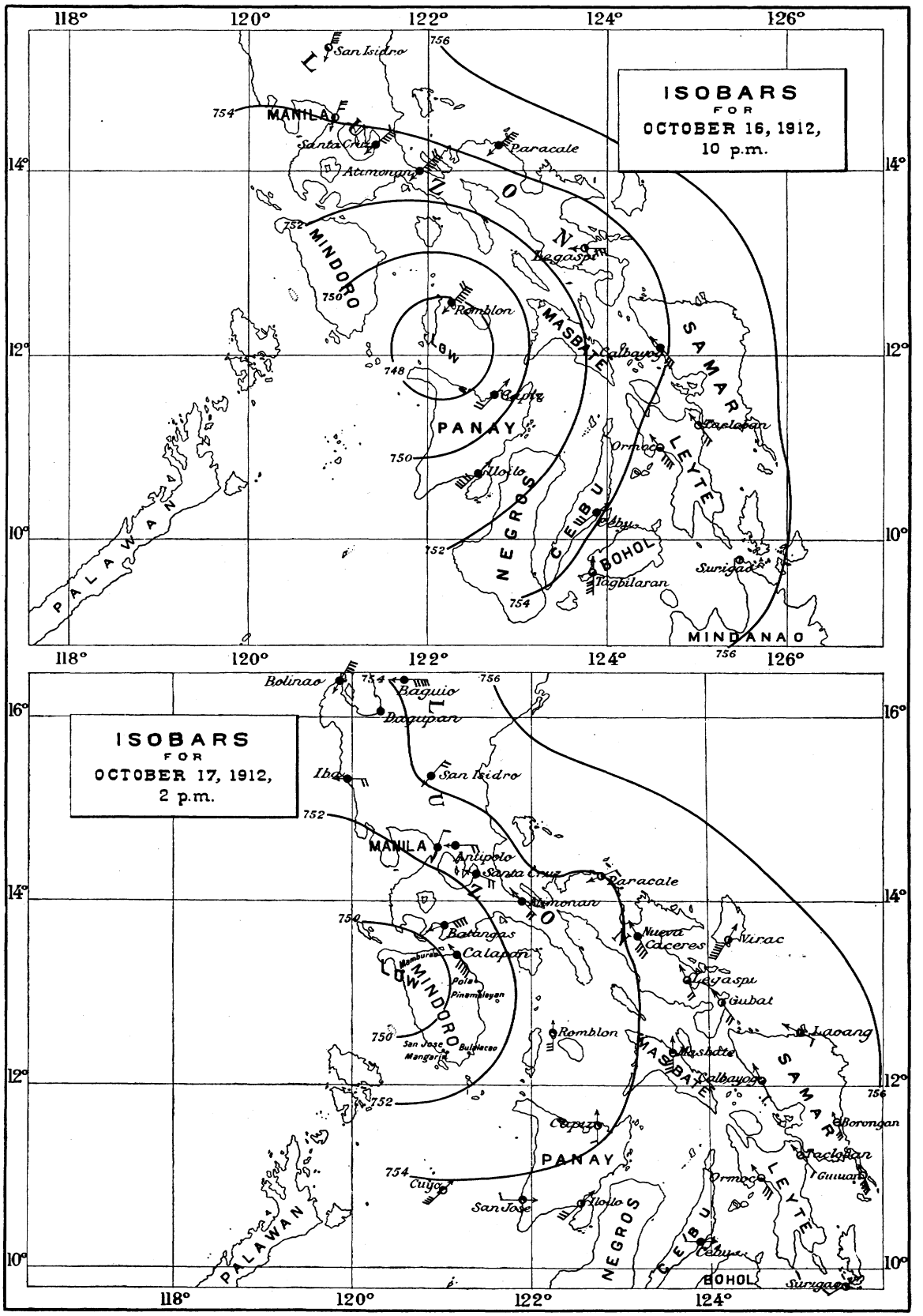
From Hongkong Observatory, the following were received:

October 14, 11.05 a. m.: Typhoon SE of Luzon, moving W.
October 15, 11.50 a. m.: Typhoon S of Luzon, moving W.
October 16, noon: Typhoon S of Luzon, moving W.
October 16, 4.45 p. m.: Typhoon SE of Manila, moving NE.
October 17, 11.15 a. m.: Typhoon S of Manila, moving WNW.
October 18, 11.30 a. m.: Typhoon W of Luzon, moving WNW.
October 18, 5.25 p. m.: Typhoon NW of Palawan, moving W.

[1] In Plate V the barographic curve obtained on board the steamship *La Manche* has been included. In order, however, that it might be properly compared with the curve of Quang-Ngai, a proper correction has ben applied to the original of the former, as has been deduced from the observations given in the table.

M. Le Cadet remarks that the self-registering apparatus of Quang-Ngai had not been working very satisfactorily.

Plate XIV.



N.B.- The barometric readings have been reduced to standard gravity.

Rate of progress.—Before closing the discussion of this typhoon, we must say just a few words on its rate of progress and likewise on the question whether or not the so-called hurricane wave was observed in the Philippines.

The Observatory insisted many times, both in the weather reports and typhoon warnings, and in information given to captains and the shipping firms with ships in Manila or in the ports of the Visayas, that the typhoon was moving very slowly during the 15th and 16th. The fact that the vortex employed 55 hours in crossing the Archipelago, while other typhoons do it in a day and sometimes, although rarely, even less than a day, is an evident proof of the truth of this assertion. But in order to give exact and positive data on the subject, we have chosen two points of the track which will better serve us to give approximately the velocity per hour with which the storm advanced from Leyte to Cebu Island. These two points are Maasin and Cebu. The barographic curves of both places may be seen in Plate V. According to these curves the vortex passed at its least distance from Maasin at 2.50 p. m. of the 15th, and at its least distance from Cebu at 10.15 p. m.; that is at an interval of $7\frac{1}{2}$ hours approximately. The distance between Maasin and Cebu is 58 miles, so that the rate of progress of the storm was 7.7 nautical miles per hour.

If the track of the typhoon be carefully examined, it will be seen that this rate of progress was more or less preserved while the vortex remained within the Philippines, but that it increased extraordinarily when it entered the China Sea. To obtain approximately the mean hourly velocity with which the typhoon traversed the distance between our Archipelago and the coast of Indochina we have taken as points of comparison, the time at which it left the west coast of Mindoro, i. e., 2 p. m. of the 17th, and when it reached Indochina or 11.30 a. m. of the 19th, according to the barographic curve of Quang-Ngai. The distance between these two points is approximately 688 miles, and as this was covered in $45\frac{1}{2}$ hours we have as a result that the mean velocity of the typhoon in its movement of translation across the China Sea, was 15.1 per hour. This would suppose, of course, that the track was a straight line from Mindoro to Indochina, which was not exactly the case. To obviate somewhat this difficulty, and to show at the same time that the velocity of the storm was not uniform, but rather increasing gradually, we have divided this portion of the track into two parts, one from 2 p. m. of the 17th to 2 p. m. of the 18th, and the other from 2 p. m. of the 18th to the least distance from Quang-Ngai. (See Plate V.) The typhoon moved in the first part with an average velocity of 13.6 miles per hour, and in the second part with an average of 17 miles per hour. This would give for the whole a mean hourly velocity of 15.2 miles.

Were the destructive effects of a cyclonic wave experienced in the Philippines during the passage of this typhoon?—The first cable massage of this typhoon received in Manila was so alarming, the number of victims in Cebu alone was so exaggerated, that at first sight one was almost forced to the conclusion that a cyclonic wave must have accompanied it and given to the storm a very exceptional character. And our fears were apparently confirmed by an expression used in one of the cablegrams, which scarcely allowed of any explanation but that of a cyclone wave. But as soon as it was known in Manila how greatly exaggerated had been the first reports, our fears, at least with regard to Cebu, disappeared. And, although the danger of the existence of the wave was greater for the Island of Leyte, which was one of the first islands traversed by the storm, still the data we have received are of such a nature that it may be certain, if the wave really existed at all, it was of relatively slight importance.

But before entering into details, it might be well to explain briefly what is meant by a cyclone wave. We can give no better description than that written by Fr. Benito Viñes in his "Apuntes relativos a los huracanes de las Antillas, Habana, 1877," page 192:

The strong depression which originates in the interior of the meteor, especially in the central region, causes the storm to accentuate its suction on the water and thus raises and suspends it, in a quantity proportional to the excess of the external over the internal pressure, in a manner analogous to what takes place in the air pump from the time when a partial vacuum begins to be produced in the body of the pump. The impulse of the revolving, converging winds contributes to the same effect, producing converging currents in the sea which tend to heap up the waters at the vortex of the cyclone.

The waters accumulated under the influence of these two causes form the so-called hurricane wave, a pyramidal and deformed wave, whose crest or vortex corresponds approximately with the vortex of the cyclone. This immense wave always accompanies the meteor in its movement of progression, and on being thrown against the coast it makes the water rise to an extraordinary and sometimes astonishing height, causing terrible inundations and spreading everywhere terror and desolation.

It may be well also to indicate some of the distinctive characteristics of the cyclonic wave, which differentiate it from other waves. In the first place it has no ebb and flow as in, for example, the seismic wave. For the cyclonic wave being, as already said, a huge mountain or mass of water which accompanies the vortex in its movement of progression and is produced by the same difference of pressures between the interior and exterior parts of a typhoon, it follows that the height of the waters due to the wave must remain permanent as long as its cause remains, that is till the interior part of the typhoon has passed. In the second place, the direction of the wave in invading the coasts depends only on the position of the vortex with respect to the coast, and is consequently quite independent of the direction of the winds, and in many cases it is quite perpendicular to the latter. Nevertheless in cases where the direction of the winds is favorable, it may combine with the direction of the wave and cause the water to rise to a higher level than it would otherwise do. And finally when the nature of the cyclonic wave is once understood, it becomes clear that the height at which the sea reaches a certain coast depends on the smaller or greater distance of the center of the cyclone from the coasts, the smaller or greater atmospheric depression in the center, the smaller or greater velocity of progression and on the more or less insuperable obstacles it finds in its way on reaching the coasts.

The question may be asked, does a cyclonic wave accompany every typhoon? If the cause of the wave be taken for granted, then it follows that there cannot be any typhoon without the wave, at least at sea. That the wave be of sufficient size to cause the sea to enter the land will depend on the different causes mentioned above. But it may be said that cyclonic waves of extraordinary dimensions, like the one observed in Samar and Leyte on October 12, 1897, and which caused the death of 1299 persons [1] are of very rare occurrence. But waves of less importance, more or less combined with hurricane winds on the outskirts of the vortex, are not so rare on the eastern coasts of the Archipelago.

Father Algué, in his report on the typhoon of October 1897 in Samar and Leyte, says:

Cyclonic waves are not so rare on the eastern coasts of Samar, Leyte, Bohol, and Mindanao; though they are rarely of the magnitude of the one which accompanied the typhoon of the 12th. The natives call an extraordinary high tide *dolo*, and they affirm that a *dolo* visits their coasts every year. Now the *dolo* is probably nothing less than cyclonic wave, or if it happens during perfectly normal weather it may be the effect of geological phenomena; in case therefore the *dolo* is cyclonic, then it is formidable only in the vicinity of the vortex and in the destructive zone, especially if the barometric gradient and the absolute depression in the center is very great, as it was in the typhoon we are here discussing.

We will try now to give our opinion with regard to the present typhoon of Leyte and Cebu. And first of all, it must be taken into account that when the vortex reached

[1] See "El baguio de Sámar y Leyte", por el P. José Algué, Manila, 1897.

Cebu it had already crossed the two Islands of Dinagat and Leyte. If in spite of this a cyclonic wave was observed in Cebu capable of causing the great number of deaths as were first reported then the typhoon must have been exceptionally severe and far worse than the one of 1897. Happily this was not the case. For all the information we have received from Cebu and from those who went to the island to make an examination of the effects of the typhoon, among whom was Fr. Saderra Masó, Acting Director of the Observatory, is at one in saying that there was not any cyclonic wave, and that the damage caused to the small boats in the port, to the warehouses and streets of the wharf, to the railway etc. etc. were due to a combination of torrential rains and the consequent inundations and floods, of hurricane winds, high tide and waves produced in the sea by these winds. The observer of Cebu in his report mentioned above indicated the same when he said:

> The water came down from the mountain in the form of a torrent, which, combined with the high tide and strength of the storm, destroyed the warehouses and washed out the streets near the new port.

It was much more probable that there should have been a cyclonic wave, with disastrous results in the south part of Leyte traversed by the typhoon. It is quite certain and expressly stated in many of the reports that have come to hand, that the sea water did actually enter the towns situated on the coasts of the region within the area of destruction.

Nevertheless a careful examination of all of these reports inclines us to believe that the principal causes of this was, not a cyclonic wave properly so-called, but rather the waves which were raised and dashed on the shore by the force of the hurricane winds. The words of the observer of Maasin cannot be more explicit on this point. In his report which we have cited in its proper place, the observer does not give any indication of the existence of waves dangerous for the locality during the passage of the anterior part of the typhoon, for the winds being from the north quadrants, could not cause a wave to advance on towns situated like Maasin on the south coast of the island. It was exactly at the time of the minimum that the observer noticed large waves coming from the SW: and about an hour after the wind had begun to blow with hurricane force from this same direction, the water within the limits of the town reached up to his knees and was increasing in height every moment.

In a letter from M. B. Cogan of the house of "Viuda e hijos de F. Escaño" it is categorically denied that there was a cyclonic wave in Leyte. We copy the part of the letter which refers to this point:

> There was no cyclonic wave, the wave which destroyed Sogod Norte and Consolacion being a storm wave[1] increased greatly in size by being forced into a pocket. Sogod Sur was washed away by a combination of the avenida and the heavy waves sweeping along the beach. We estimated the greatest height of the waves at Malitbog at 15 feet (4.6 meters), while Sogod Norte and Consolacion report the waves there at 30 feet (9.1 meters).

The last words of his letter may cause some confusion, but as in two different official reports we find it stated that the sea rose to the height of one meter to a meter and a half in Sogod, it follows that the height of 4.6 and 9.1 meters, as given in the letter of Mr. Cogan, must refer to the height to which the waves rose in the sea or when they dashed against some obstacle on the coast, and not to the height which the sea reached within the town.

As a further confirmation of what has been said, we may add that if a true cyclonic wave of great importance had struck Leyte, like the one in the 1897 typhoon, the

[1] A wave produced by the wind.

number of victims in that island would have been much greater. We do not wish to deny altogether that there was some kind of cyclonic ware, at least on the eastern coast of Leyte, but that if there was one it was not a large one, and that the entrance of sea water in the towns along the coast was due principally to the hurricane force of the winds.

What happened on the eastern coast of the island of Dinagat, the first island traversed by the cyclone, and whether a true destructive cyclonic wave accompanied the vortex there, it is impossible to say, because that coast is entirely uninhabited.

THE TYPHOON OF NORTHERN LUZON OCTOBER 26–27, 1912.

This is the third typhoon that crossed the Philippines during this month, and like the two preceding ones it belonged to the type of those that form not far from the Archipelago, thus allowing only one or two days of warning beforehand. This typhoon probably had its origin on the 24th between meridians 130° and 133° E and parallels 12° and 15° N. Nevertheless, its influence was not begun to be felt in the Philippines till the 25th. The first warning of this typhoon sent out by the Observatory was in the afternoon of the same day, the 25th, although in the ordinary weather report of the morning it had been stated that "atmospheric pressure was low in the Pacific to the E of Luzon." At 3.15 p. m. this warning was published in Manila:

October 25, 3.15 p. m.: There are signs of a depression or typhoon over the Pacific to the east of Luzon, between 14° and 16° latitude north and at a distance of over 300 miles. Its actual direction cannot yet be given.

To the meteorological centers of the Far East the following cablegram was sent:

October 25, 3.00 p. m.: Typhoon E of Luzon, more than 300 miles distant, direction unknown.

Throughout the 26th it was evident that the typhoon was moving to WNW, and therefore was dangerous for the provinces of northern Luzon. Hence the following notes were published in the capital and sent to the principal shipping offices in Manila:

October 26, 8.45 a. m.: The typhoon is situated this morning in about 16° latitude north and 125° or 126° longitude E moving WNW.

October 26, 3.15 p. m.: The typhoon seems to threaten the northern part of Luzon. It will probably cross by to-morrow morning the provinces of Isabela or Cagayan.

The accuracy of these warnings, especially with regard to what was said concerning the part of Luzon to be crossed by the center, was seen a few days later, when the observations made during the passage of the typhoon, in the stations of Echagüe, Tuguegarao, and Aparri, were received in Manila. We say "a few days later," because all telegraphic communication with the two last-mentioned stations was interrupted from the night of the 26th till the end of the month. Part of these observations are given below. According to them the center must have passed precisely over the boundary line of the provinces of Isabela and Cagayan, which provinces were stated in the typhoon warning of the afternoon of the 26th to be situated in the track of the storm.

METEOROLOGICAL OBSERVATIONS FOR OCTOBER 26 AND 27, 1912.

Date and hour.	Aparri.					Tuguegarao.					Echagüe.				Rain, 24 hrs. beginning 6 a. m.
	Pressure.	Wind.		Weather.	Rainfall.	Pressure.	Wind.		Weather.	Rainfall.	Pressure.	Wind.		Weather.	
		Direction.	Force.				Direction.	Force.				Direction.	Force.		
October 26:	*mm.*		*0–12*		*mm.*	*mm.*		*0–12*		*mm.*	*mm.*		*0–12*		*mm.*
6 a. m	758.03	NE	3	o, q, r	[a] 6.1	757.39	N	1	c		756.33	SW	0	o	
2 p. m	56.53	NE	4	o, q, r	12.7	55.49	NW	3	o, q, r	15.7	53.81	NNW	2	o	
6 p. m	55.98	NE	3	o, q, r	8.9	54.32	NW	3	o, q, r, t	23.1	52.75	NWbyN	2	o, r	
10 p. m	55.62	NE	4	o, q, r	9.7	51.33	NW	7	o, q, r	20.3	51.08	W	4	o, q, r	
11 p. m	55.10	NE	5	o, r		49.20	NW	10	o, q, r		50.15	W	5	o, q, r	
12 mn	53.77	NE	5	o, r		46.88	NW	12	o, q, r		49.25	WSW	5	o, q, r	41.1
October 27:															
1 a. m	52.10	NE	6	o, q		43.69	NW	12	o, q, r		48.46	SW	4	o, q, r	
1.30 a. m											48.06	SSW	5	o, q, r	
2 a. m	51.16	NE	6	o, q, r	14	40.43	NW	12	o, q, r	49.5	48.20	SSW	4	o, r	
2.45 a. m						37.31	NW	12	o, q, r						
3 a. m	49.14	NE	6	o, q, r		37.81	[b] NW	11	o, q, r						
4 a. m	47.53	NE	6	o, q, r		43.22	SW	12	o, q						
5 a. m	48.63	E	6	o, q, r		47.63	SW	12	o, q, r						
6 a. m	50.61	E	6	o, q, r	18.3	49.75	SSW	8	o, q, r	25.1	50.61	SSE	3	o, r	
10 a. m	53.84	SE	3	o, r	4.6	54.21	SE	5	o, r	14					
2 p. m	53.74	SE	3	o, r	8.4	54.77	S	4	o, r	11.7	54.89	S	1	o, r	15.5
6 p. m	55.93	S	1	o, r	5.6	55.94	SSE	2	o, d						
10 p. m	57.63	S	1	o	1.5	58.03	SE	2	c						

[a] Rainfall from 10 p. m. to 6 a. m.

[b] Shortly after 3 a. m. relative calm was observed with winds veering from N. to S.

The observer of Tuguegarao describes the storm in these terms:

At 2.45 a. m. of the 27th the barometric minimum 737.31 mm. was recorded, with winds from NW, force 12 (hurricane winds), after which there was relative calm which lasted but a short time, when the wind began to veer from N to S.

The storm was intense though no very great damage was done. Almost all the banana plants were razed to the ground, while the streets were covered with branches of trees. The rivers Grande de Cagayan and Pinacanauan overflowed their banks and inundated the lowlands damaging the corn and tobacco seedlings.

In Solana some houses were damaged and all the seed sown both in high and low lying lands was completely destroyed by water, owing to the rivers Pangul and Cagayan having overflowed their banks. A barangay was sunk in Natapian and another in Lingu, but without the loss of any lives. There were floods also in Peñablanca.

As the typhoon moved to the WNW, it passed between Laoag and Vigan, just touching the northern portion of Ilocos Sur and the southern part of Ilocos Norte. The observations given below, made in these two stations, indicate clearly that the storm had decreased in intensity in passing over Isabela, Cagayan, and the Mountain Province. The Observatory, in its ordinary weather report of the 27th, said:

The typhoon is crossing this morning the northern part of Luzon, moving WNW.

And on the 28th at 11.55 a. m. it described the track of the typhoon across Luzon in these terms:

October 28, 11.55 a. m.: The typhoon passed after midnight of the 26th to the 27th near or over the northernmost part of Isabela Province and the southernmost part of Cagayan Province, then it crossed the Mountain Province, passed between Laoag and Vigan, and went into the China Sea at about 8 a. m. of the 27th. The center of the storm lies this morning to the west of the Balintang Channel moving W or WNW.

METEOROLOGICAL OBSERVATIONS FOR OCTOBER 26 AND 27, 1912.

Date and hour.	Laoag.					Vigan.				
	Pressure.	Wind.		Weather.	Rainfall in 24 hours beginning 6 a. m.	Pressure.	Wind.		Weather.	Rainfall.
		Direction.	Force.				Direction.	Force.		
October 26:	*mm.*		*0-12.*		*mm.*	*mm.*		*0-12.*		*mm.*
2 p. m	756.24	N	2	o		755.66	NNE	2	o	
10 p. m	56.34	NNE	3	o, d	11.2	56.09	NW	1	o, d	0.8
October 27:										
2 a. m	52.40	NNE	4	o, d		52.61	NNE	2	o, d	.5
4 a. m	50.07	NNE	5	o		50.88	NNW	6	o, q	
6 a. m	46.95	NNE	8	o, q, r		49.28	NW	4	o	2.5
7 a. m	46.78	NNE	6	o, d, q		48.50	NW	2	o	
8 a. m	47.06	E	2	o, r		48.02	SW	1	o	
9 a. m	48.60	ESE	1	o, r		49.32	SSW	2	o	
10 a. m	49.28	E	1	o, r		50.62	SSW	4	o, d, q	1
Noon	49.74	ESE	3	o, q, r		51.01	SSW	5	o, q, r	
2 p. m	50.07	SE	5	o, q, r		51.32	SSW	7	o, q, r	39.4
4 p. m	51.46	SSW	5	o, q, r		53.01	SSW	8	o, q, r	
6 p. m	53.31	SSW	6	o		54.63	SSW	7	o, q, r	14
8 p. m	55.78	SSW	1	o, r						
10 p. m	56.70				138.9	57.31	S	5	o, q, r	36.8

The following typhoon warnings were sent to the Observatories of Tokio, Zikawei, Taihoku, Hongkong, and Phulien:

October 26, 8.35 a. m.: Typhoon E of Luzon, less than 300 miles distant, moving WNW.
October 27, 10.00 a. m.: Typhoon crossing northern Luzon, moving WNW.
October 27, 10.00 p. m.: Typhoon W of Balintang Channel, moving WNW.
October 28, 10.15 a. m.: Typhoon W of Balintang Channel, moving W or WNW.

From observations received later it appears that on the 28th the typhoon recurved to the N or NNE, and filled up on the 29th to the W of the Bashi Channel.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes es bastante inferior a la de Octubre del año pasado. Esto debe atribuirse a lo extraordinario y anormal que fué el mes de Octubre de 1911 por la ausencia de perturbaciones atmosféricas. Así no es de extrañar que la media presión atmosférica de Manila, por ejemplo, aunque se diferencia de la del año anterior en—2.01 mm., sin embargo, sólo se aparta de la normal de Octubre en—0.30 mm. Las presiones medias más bajas ocurrieron en Mindanao, Visayas y sur de Luzón durante el tifón que atravesó las Visayas los días 15 y 16 según veremos luego: en el centro y norte de Luzón coincidieron en unas estaciones con otro baguio del canal de Balintang, días 10 y 11, y en otras con un tercer baguio del norte de Luzón, el día 27.

La temperatura media mensual apenas se diferencia de la del año pasado. La de Manila es menor que la normal de Octubre en 0.5° C. Las temperaturas extremas registradas en el Observatorio Central fueron 33.3° y 21.7° C correspondiendo respectivamente a los días 28 y 25.

Precipitación acuosa.—Solo cinco estaciones de Filipinas nos dan este mes un total de lluvia menor que en Octubre, 1911. Téngase, con todo, presente que Octubre del año pasado fué un mes extraordinariamente seco, según recordarán nuestros lectores. La cantidad de agua recogida en todo el mes en los pluviómetros de Manila ha sido 170.4 mm., mayor que la de Octubre del año anterior en 160.7 mm. y menor que la normal de este mes en 18.2 mm. En la tabla de lluvia que acompaña el texto inglés se verá que de las 25 estaciones para las cuales podemos dar comparaciones con las normales de Octubre, solo seis aparecen con diferencias negativas, y las 19 restantes con diferencias positivas.

DEPRESIONES Y TIFONES.

Cuatro tifones ha anunciado este mes el Observatorio, tres de los cuales han atravesado las Filipinas, uno por el canal de Balintang, otro por las islas Visayas, y el tercero por la parte septentrional de Luzón. El de las islas Visayas fué el más notable, pudiendo sin duda contarse en el número de esos terribles tifones de extraordinaria violencia que por fortuna solo de vez en cuando visitan nuestro Archipiélago, y más particularmente las dos regiones comprendidas entre los paralelos 10° 30′—14° y 16°—20°.

Nuestros lectores pueden ver las trayectorias de estos cuatro tifones de Octubre en la Lámina V. Ahora diremos algo sobre cada uno de ellos, extendiéndonos de una manera particular en el de las Islas Visayas que ocurrió el 15 y 16 de este mes.

TIFÓN DEL CANAL DE BALINTANG: 8 A 13 DE OCTUBRE, 1912.

Este tifón es del tipo de los que se forman cerca de Filipinas, y por consiguiente apenas pueden anunciarse más que con uno o dos días de anticipación. Los primeros indicios de perturbación atmosférica al este de Luzón se notaron en Filipinas la tarde del día 8, según se indicó en la nota ordinaria del tiempo del día 9 en estos términos:

> Día 9, 11.50 a. m.: Un tifón ha aparecido desde ayer tarde al este del norte de Luzón, hallándose su centro esta mañana a una distancia de la costa de unas 200 millas. Parece moverse al presente al W o WNW.

En el mapa de trayectorias de este mes (Lámina V) se ve cómo este tifón se movió al principio al NW¼W, y luego al WNW, hasta que al llegar al canal de Balintang, la madrugada del día 10, verificó una recurva muy notable y marcada al WSW. El Observatorio anunció este cambio notable de dirección en las notas del tiempo de los días 11 y 12.

Día 11, 11.55 a. m.: El tifón ha inclinado su trayectoria más al W, hallándose su centro esta mañana en el Mar de China al W del canal de Balintang, moviéndose al W o WSW.

Día 12, 11.55 a. m.: El tifón se halla esta mañana en el Mar de China cerca de Paracels, moviéndose aparentemente al SW¼W.

Para que se vea claramente que el tifón atravesó el Mar de China en dirección al WSW bastará decir que habiendo pasado la mañana del 10 por los alrededores del paralelo 20°, sin embargo vino a penetrar en Indochina, tres días después, por el paralelo 15°. La posición del vórtice la mañana del 10 la echarán de ver por sí mismos nuestros lectores examinando con cuidado las observaciones de Aparri y Santo Domingo, las cuales incluímos en una tabla en el texto inglés. La mínima barométrica de Santo Domingo fué 748.70 mm., observada a 5.15 a. m. del 10 con vientos del ENE que rolaron después al E y ESE: la de Aparri fué 751.3 mm. a 4 p. m. del mismo día cuando los vientos habían rolado ya del NW al W, SW y S. No hay duda, pues, de que el vórtice pasó por entre ambas estaciones y más cerca de Santo Domingo que de Aparri: en otras palabras, atravesó el canal de Balintang cerca del paralelo 20°.

Que el vórtice penetró en Indochina por los alrededores del paralelo 15° se deduce evidentemente de varias curvas barográficas y preciosas observaciones que agradecemos a Monsieur Le Cadet, Director del Observatorio de Phulien. Según estos datos, el centro del tifón pasó muy cerca de Quang-Ngai a 1 a. m. del día 13, causando una mínima barométrica de 744 mm.[1]

Véanse a continuación los avisos de tifón enviados por el Observatorio de Manila a los demás Centros Meteorológicos del Extremo Oriente:

Día 9, 9.25 a. m.: Tifón al E de la parte norte de Luzón, distancia menor de 300 millas, moviéndose al WNW o NW.

Día 10, 12.10 p. m.: Tifón en el, o cerca del, canal de Balintang, moviéndose al WNW.

Día 11, 9.40 a. m.: Tifón al W del canal de Balintang, moviéndose al W.

Día 11, 5.25 p. m.: Tifón al W de la parte norte de Luzón, distancia mayor de 100 millas, moviéndose al SW.

TIFÓN DE 13 A 19 DE OCTUBRE, 1912.

Por espacio de varios días antes del 13 las observaciones de Yap y Guam indicaban la existencia de una depresión o tifón en las Carolinas Occidentales entre los paralelos 5° y 10° N y los meridianos 142° y 146° E. El día 13 no había ya duda de que existía un tifón bien desarrollado entre Yap y Guam y casi a igual distancia de ambas estaciones. El día siguiente, 14, se vió que el tifón se movía al NW y que por lo tanto no era peligroso para Filipinas. Los siguientes avisos de tifón fueron enviados a los Observatorios de Tokio, Zikawei, Taihoku, Hongkong y Phulien:

Día 13, 3.25 p. m.: Tifón al SW de Guam, moviéndose al W o WNW.

Día 14, 7.00 a. m.: Tifón al SW de Guam, desarrollándose.

Día 14, 4.15 p. m.: Tifón al W de Guam, moviéndose al NW.

En el texto inglés reunimos en una tabla algunas de las observaciones hechas en Yap y Guam los días 12 a 16 de Octubre. En ellas se fundaba el Observatorio al anunciar una mayor inclinación de la trayectoria al N el día 16, y su probable recurva al NE el día 17. Las notas a que nos referimos decían lo siguiente:

Día 16, 11.55 a. m.: El tifón del Pacífico se halla a la mitad de camino entre las Islas Marianas y Liukiu, moviéndose al NW o NNW.

Día 17, 11.45 a. m.: El tifón del Pacífico está probablemente recurvando hacia el nordeste.

[1] Esta mínima es algo dudosa por estar tomada de un aparato registrador defectuoso que no funcionaba muy satisfactoriamente.

A los observatorios arriba mencionados se enviaron estos avisos de tifón los días 15 y 16.

Día 15, 10.55 a. m.: Tifón al W. de la parte sur de las Islas Ladrones o Marianas, moviéndose al NW.

Día 16, 11.58 a. m.: Tifón en el Océano Pacífico, a la mitad de camino entre las Islas Marianas y Liukiu, moviéndose al NW o NNW.

EL BAGUIO DE LEYTE Y CEBÚ, 15 Y 16 DE OCTUBRE, 1912.

Fresca está aún en los ánimos de todos la memoria de las muchas víctimas y grandes pérdidas materiales causadas en las islas Visayas por el terrible baguio de 15 y 16 de Octubre próximo pasado. Y aunque es verdad que las primeras noticias recibidas en Manila sobre los efectos destructores de este baguio resultaron bastante exageradas, al menos por lo que toca a la capital de la isla de Cebú, sin embargo hay que confesar que bien puede clasificarse este tifón entre los que podríamos llamar de primera clase, así por lo mucho que bajó el barómetro en las cercanías del vórtice como por la consiguiente violencia de los vientos, lluvias torrenciales e inundaciones que produjo en buena parte de las islas Visayas, pero muy particularmente en el sur de la isla de Leyte y norte de la isla de Cebú. En la ciudad misma de Cebú hubiera sido el desastre muchísimo mayor de lo que en realidad fué, a haber pasado el vórtice más cerca, y a haber conservado el tifón el desarrollo e intensidad que tenía cuando se hallaba en Leyte. Si el barómetro en vez de bajar solamente hasta 735 mm. hubiera alcanzado la mínima de 716 mm. como en Maasín, o 707 mm. como en Matilbog (pueblos situados ambos en la parte sur de Leyte), creemos que las pérdidas en vidas y haciendas hubieran tal vez justificado lo alarmante de las primeras noticias arriba mencionadas.

Estas noticias fueron recibidas por el *Manila Daily Bulletin* a las 9 a. m. del Sábado, 19 de Octubre, y comunicadas inmediatamente por teléfono al Secretario Ejecutivo, a casi todos los Bureaus del Gobierno, a los bancos, y principalmente a las casas comerciales de la capital. Con una prontitud digna del mayor encomio procedió el Gobierno al envío de socorros a los pueblos más necesitados, y el mismo Sábado por la tarde salía para Cebú el guardacostas *Mindanao* y el vapor *Churruca* de la casa Inchausti con provisiones abundantes y comisiones del Bureau de Sanidad y del Bureau de Ciencias, a las cuales se juntó, por voluntad expresa del Secretario del Interior, el Director interino del Weather Bureau, P. Miguel Saderra Masó. La misma noche del Sábado salieron también para Cebú en el crucero *Cincinnati* el Vice-gobernador General, el Speaker de la Asamblea, y el General Bandholtz nombrado jefe encargado de la distribución de provisiones. Gracias a la generosidad con que el Director interino del Bureau de Ciencias puso a disposición del P. Saderra el fotógrafo auxiliar de dicho Bureau, Sr. Cortés, nos hallamos en posesión de un buen número de fotografías tomadas en la ciudad de Cebú, de las cuales reproduciremos algunas más abajo al hablar de los efectos destructores de este baguio en aquella ciudad. También debemos agradecer a los jefes de la Constabularia de Manila el habernos facilitado varios de los *reports* oficiales que mencionaremos en su lugar.

Antes de pasar adelante en el estudio de la trayectoria de este tifón, hemos de hacer constar que lo llamanos *El tifón de Leyte y Cebú,* por la sencilla razón de que aun cuando atravesó también las islas de Negros, Panay y Mindoro, sin embargo, había ya disminuído tanto en intensidad, después de haber abandonado la isla de Cebú, que los daños y pérdidas que causó en aquellas islas son relativamente de poca importancia, si se comparan con la ruina, destrucción y número de víctimas que dejó en pos de sí en la parte meridional de la isla de Leyte y septentrional de la isla de Cebú, según veremos luego.

Origen de este tifón: sus efectos en Surigao.—Como quiera que las observaciones de Yap, Carolinas Occidentales, no dieron señal alguna de la existencia de este tifón, creemos poder asegurar que tuvo su origen cerca de Filipinas probablemente en los alrededores de 132° longitud E y 10° latitud N. Nuestros mapas del tiempo de 6 a. m. y 2 p. m. del día 13 dieron algunos indicios de una depresión o tifón al este de las islas Visayas: pero por desgracia sucedía esto en Domingo, cuando las estaciones telegráficas de Filipinas no funcionan por las tardes más que de 4 a 5.30, y debido a esta circunstancia ni se pudo pedir observación extraordinaria de 4 p. m., como suele hacerse en días laborables caso de haber sospecha de perturbación atmosférica, ni se envió ningún aviso de tifón hasta la mañana del 14.[1]

Que en condiciones más favorables hubiera el Observatorio adelantado unas 14 o más horas el envío del primer aviso de tifón, lo prueba el hecho de que el Observador de Surigao, antes de recibir aviso alguno de Manila, y fundado solamente en sus propias observaciones, telefoneó a las 7.30 p. m., del 13 este acertado aviso de tifón: "Primera señal de temporal. Hay un baguio en el Pacífico. Toda clase de embarcaciones deben tomar prudentes precauciones." Es de alabar la solicitud con que el mismo observador de Surigao, Sr. Pastor P. Daroy, aun antes que se restableciese la comunicación con Manila la mañana del día 14, envió a las autoridades la siguiente nota:

Día 14, 7.30 a. m.: Cuarta señal de temporal. Tifón al E de las Islas Visayas acercándose. El tifón es peligroso, aunque no inminente todavía. Sin embargo, es conveniente que se tomen en todas partes serias precauciones.

Apenas se recibieron en Manila las observaciones de 6 a. m. del 14, cuando se apresuró el Observatorio a trasmitir a todas las casas navieras de la capital este apremiante aviso de tifón:

Día 14, 8.30 a. m.: Un tifón ha aparecido desde ayer tarde en el Pacífico al E de las islas Visayas, moviéndose al W o WNW. Tiempo muy inseguro para Visayas y Sur de Luzón. Navegación peligrosa para Visayas.

Y a las estaciones todas de Filipinas se trasmitió casi a la misma hora este aviso de tifón:

Día 14, 8.25 a. m.: Tifón al E de las islas Visayas, moviéndose al W o WNW.

Como quiera que Surigao fué la primera de nuestras estaciones en sentir la influencia de este tifón, diremos aquí algo sobre las observaciones que allí se hicieron y los efectos del temporal en aquella localidad. Publicamos dichas observaciones en una tabla que acompaña al texto inglés. El hecho de que ni el 13 ni el 14 se observaron vientos del NW sino solamente del WNW, W y WSW, es una prueba bastante clara de que el tifón se movía en un principio exactamente al W, dirección que conservó, según veremos más abajo, al atravesar la Isla de Leyte. La mínima barométrica 739.02 mm. tuvo lugar a las 9 a. m. del día 15 habiendo sido los vientos casi huracanados del SW a 8.30 a. m. El vórtice debía de hallarse entonces al N de Surigao, a unas 30 millas de distancia, es decir, en los alrededores de la isla Dinágat. En la Lámina VII verán nuestros lectores las isobaras correspondientes a 6 a. m. de este día 15.

[1] Aprovechamos esta ocasión para hacer constar nuestro agradecimiento al Director del Bureau de Correos por la generosidad con que a la menor indicación del Director del Weather Bureau ha tenido abiertas las estaciones telegráficas sea en horas extraordinarias los Domingos y fiestas oficiales, sea durante la noche en cualquier día de la semana. Sin embargo, para casos como el presente cuando se trata de días en que se presentan los primeros indicios de tifón, sería mucho de desear por lo que toca al Weather Bureau que las horas de servicio telegráfico los Domingos y fiestas oficiales se extendiesen un poco más, es decir, de 7.30 a 10 por la mañana, y de 2.30 a 5 por la tarde. Actualmente la premura del tiempo es tanta, que cuando se han recibido en el Observatorio los servicios meteorológicos y se han descifrado y se ha trazado el mapa del tiempo para ver si hay señales de algún peligro, apenas queda tiempo material para decir a correos las estaciones que desearíamos quedasen abiertas fuera de la hora reglamentaria.

De lo dicho ya se desprende cuán acertado estuvo el Observatorio al dar a 9.15 a. m. del mismo día este aviso de tifón que fué distribuído inmediatamente a todas las casas navieras de Manila:

Día 15, 9.15 a. m.: El tifón se halla situado esta mañana entre la costa sur de Sámar y Surigao. Se mueve al W en dirección a Leyte, Cebú, Negros y Panay.

La trayectoria ulterior del tifón confirmó plenamente este pronóstico del Observatorio.

El observador de Surigao describe brevemente los efectos del baguio con estas palabras:

Las pérdidas aquí causadas son bastante considerables. Han quedado completamente arruinadas 80 por ciento de las casas de materiales ligeros: las 20 por ciento restantes han sufrido desperfectos de más o menos consideración. Muchas casas o edificios de materiales fuertes han sufrido también desperfectos, aunque no son tan graves. Parte de la casa-gobierno se ha destechado, especialmente la parte que ocupa nuestra oficina meteorológica. Muchos árboles gigantescos de acacia han sido arrancados de cuajo y otros muchos tronchados.

El mismo observador de Surigao nos envió más tarde los siguientes detalles sobre los efectos del baguio en Dinágat y otros pueblos de aquella provincia:

El municipio de Dinágat, Isla de Dinágat, ha sufrido tanto como Surigao o peor todavía.

Se calcula que en los dos municipios de Surigao y Dinágat hay mil familias que se han quedado sin hogar.

En Gigáquit se han tumbado cincuenta edificios entre casas y otras construcciones.

Los otros pueblos costeros al Pacífico como Placer, Tándag, Lianga, Hinatúan no han sufrido nada en comparación con Surigao o Dinágat. Han sufrido un viento algo fuerte que solamente ha tumbado algunas casas que se hallaban ya muy deterioradas, pero en cambio han tenido un mar muy alborotado o levantado.

Hasta ahora ninguno ha podido calcular a qué cantidad ascienden las pérdidas por su inmensidad, tratándose de Surigao o Dinágat.

Van incluidas dos vistas de la calle McKinley.

Las vistas mencionadas fueron tomadas por el Sr. Jesús Servillas y facilitadas al Sr. Daroy por Mr. E. Tarwater, tesorero provincial de Surigao. Véase la Lámina VI.

Del *Quarterly Bulletin* del Bureau de Obras Públicas copiamos el siguiente párrafo sobre los efectos de este tifón en Surigao:

El intenso tifón del 14, 15 y 16 causó pocos daños a la construcción de caminos propiamente tal de Surigao. La pérdida más sensible fué la hermosa avenida de acacias con sus orquídeas y helechos que daban sombra a la calzada que va desde Bilangbilang, el puerto de Surigao, hasta el centro de la población. De esta magnífica avenida sólo queda el recuerdo.

El tifón en Leyte.—Desde las primeras horas de la mañana del 14 comprendió el Observatorio que se trataba de un tifón muy intenso y de ahí que en todo el día se fuesen repitiendo avisos a las provincias más amenazadas a fin de que se tomasen con tiempo en todas partes las debidas precauciones. Entre otros avisos se envió el siguiente al observador de Tacloban, capital de Leyte:

Día 14, 3.40 p. m.: Los pueblos de la costa este de Leyte deben prevenirse contra la ola del huracán.

Más tarde diremos algo sobre si de hecho se observó en este baguio dicha ola del huracán que en tifones de excepcional intensidad suele a las veces ser más terrible y desastrosa para las costas orientales de Filipinas que la fuerza huracanada de los vientos en las cercanías del vórtice.

La cuarta señal de temporal que indica un tifón peligroso para la localidad se había mandado izar tan pronto como a las 8.25 a. m. del 14 en todas las estaciones de Sámar y Leyte. Antes del mediodía del 15 se cambió dicha señal por la sexta en Tacloban y Ormoc, indicando que el tifón iba a pasar cerca por el sur de aquellas estaciones.

En efecto, el tifón siguió moviéndose al W desde la Isla Dinágat, viniendo a desfogar con toda su furia en la parte más meridional de la Isla de Leyte en las primeras

horas de la tarde del día 15. En la parte inferior de la Lámina VII damos la trayectoria de este tifón a través de las islas Visayas, y juntamente con ella las isobaras de 2 p. m. del 15, cuando el vórtice se hallaba dentro de la extremidad sudoeste de la Isla de Leyte después de haber atravesado la otra extremidad sudeste y la había de Sogod. Afortunadamente estamos en posesión de preciosas observaciones hechas en dos puntos que se hallaron muy cerca del vórtice en la parte sur de la trayectoria, esto es, Malitbog y Maasin. Nuestros lectores podrán ver en la Lámina VII arriba citada la posición de estos y otros pueblos que iremos luego mencionando. En el texto inglés van en una tabla observaciones hechas en Malitbog a intervalos de pocos minutos desde 11.42 a. m. hasta 2.21 p. m. del día 15. Estas observaciones se tomaron de un barómetro aneroide el cual fué remitido al Observatorio inmediatamente después del baguio para averiguar el error instrumental del mismo. Examinado el aneroide con todo cuidado se halló en excelentes condiciones y que solamente tenía un error de +2.5 mm. De ahí que hemos aplicado a las observaciones que se nos remitieron la corrección —2.5 mm. Mucho debemos agradecer a Mr. B. Cogan, de la casa "Viuda e Hijos de F. Escaño" la bondad en facilitarnos estos datos juntamente con otros detalles e informaciones que copiaremos aquí, ya que sirven admirablemente para trazar con bastante aproximación la trayectoria del vórtice a través de Leyte y de la bahía de Sogod.

Los vientos rolaron (en Malitbog) del NW al SSE, siendo los más violentos los del NW, SW y S. Daños considerables causó el viento NW, pero se limitó a destechar edificios y echar abajo casas de materiales ligeros. El que esto escribe es de parecer que el daño mayor lo causaron los vientos del SW los cuales se llevaron nuestro malecón, obra de muy sólida construcción. Las olas levantadas por los vientos S y SSE se llevaron todo vestigio del malecón: de tal suerte que hoy no queda señal alguna de su existencia. Durante los vientos del NW el agua de la bahía tenía la apariencia de agua hirviendo, pero sin dirección: con el SW y más especialmente con el S se veían grandes olas que se movían con rapidez bahía arriba. No hubo en Malitbog calma vortical, si bien cuando el barómetro comenzó a subir después de 1 p. m., con viento aún del NW, se notó una marcada disminución en su fuerza que duró de 10 a 15 minutos, después de lo cual nos azotó de improviso el SW a la manera de un cañonazo. Los vientos fueron rolando muy despacio, y a las 5.30 p. m. la dirección era SSE. Dicen haberse observado calma vortical en Sogod Sur, pero no en Sogod Norte. El estado de la vegetación en Sogod Sur confirma esto mismo. También se dice que hubo calma vortical en Union, pequeño barrio al sur de Bontoc: pero esto no se ha confirmado todavía. Desde el vapor *Victoria* (de 87.7 toneladas) que se hallaba en Liloan nos consta por testigos fidedignos que se observó como una bola azul[1] que pasaba al norte de aquella localidad. Este barco rompió sus amarras y encalló a 1.30 p. m. Nuestro agente en Hinunangan nos da como mínima observada en su barómetro 710 mm.[2] lo cual pondría al vórtice casi equidistante entre dicho pueblo y Malitbog.

Según estos datos puede asegurarse que el vórtice pasó a unas 7 ó 8 millas por el N de Liloan y de Malitbog, probablemente por los alrededores de Cabalián, Sogod Sur, y Matalom, y que se movía todavía al W. Lo mismo confirman las observaciones hechas por nuestro observador de Maasín las cuales damos en una tabla en el texto inglés. Como dicha estación se halla unas diez millas al W de Malitbog y también algo más al sur, la mínima barométrica fué naturalmente unos pocos milímetros más alta y ocurrió algo más tarde. En la Lámina V hemos incluído la curva barográfica obtenida en Maasín siendo mucho de sentir que por un accidente imprevisto la pluma dejó de escribir poco después de haberse registrado la mínima cuando el barómetro había empezado a subir decididamente. Por otra parte, tampoco nos ha sido posible completar la curva con observaciones

[1] Hubo de ser esto lo que los meteorologistas llaman "el ojo de la tempestad" el cual describe así Mr. Eliot en su libro "Handbook of Cyclonic Storms": "Uno de los más notables fenómenos propios de los ciclones tropicales más intensos es el área de vientos muy ligeros, o de calma absoluta, en el centro de la tempestad. En esta área las lluvias torrenciales del huracán cesan, rompen con frecuencia las nubes y aparece el cielo azul con el sol o la luna y las estrellas. Por razón de esta claridad peculiar, esta región central del ciclón recibe el nombre de *ojo de la tempestad*".

[2] Nótese que Mr. Cogan ignoraba al escribir estas líneas el error de su barómetro (+2.5 mm.). Bien pudo ser, sin embargo, que el barómetro de Hinunangan tuviese un error parecido.

directas por haber tenido que cesar éstas, debido a los grandes apuros en que se encontró el observador en proteger la casa y los aparatos contra los elementos hasta el punto de verse obligado a las 4 p. m. a buscar refugio en otra parte. Copiaremos aquí algunos párrafos del *report* con que dicho observador daba cuenta de este tifón:

A las 7 a. m. del 15 el viento racheaba fuertemente del NW, y la mar empezaba ya a levantar grandes olas. A las 10.20 a. m. el viento roló al W, aumentando su fuerza hasta llegar a 10 de la escala Beaufort: entonces fué cuando se tumbaron algunas casas y cocos y fueron arrancadas gruesas ramas de árboles. A 11 a. m. se cayeron algunas piezas de ladrillo del techo del Observatorio. A 2 p. m. el barómetro seguía bajando rápidamente y la fuerza del viento era ya 11, siendo destruídas muchas casas, ya por la violencia de los vientos, ya también por la caída de los cocos. A 2.50 fué la hora de la mínima, y llegó a 716, empezando luego a subir muy rápidamente. La fuerza del viento disminuyó por unos minutos; pero luego comenzó a soplar el SW con fuerza huracanada. A pesar de que éramos 5 sujetos procurando sostener la ventana que mira al S, sin embargo fuimos todos arrastrados por la violencia del huracán teniendo que desistir de nuestro empeño. No pudiendo soportar más la lluvia, el frío y el cansancio y viendo además que el agua del mar iba subiendo por momentos, nos dirigimos a la comandancia con agua hasta la rodilla. Al día siguiente al amanecer vimos que habían sido aplastadas 80 por ciento de las casas de la población. En el barrio da Abgao todas las casas que había cerca de la playa fueron o destruídas o materialmente barridas por las olas. En el barrio de Amparo hubo inundación y dicen también que muchas personas perecieron ahogadas.

Hasta aquí el observador de Maasín. Bueno será ahora que digamos algo más sobre los efectos destructores de este tifón en Leyte y sobre la extensión que tenía allí su área de destrucción. Según estadísticas oficiales que nos fueron facilitadas de casi todos los pueblos de Leyte por medio del diligente observador de Tacloban, Sr. Perfecto Paulino, podemos dejar por asentado que el área de destrucción al norte de la trayectoria se extendió más allá de Abuyog en la parte oriental de Leyte, y más allá de Baybay en la parte occidental. En Dulag, Burauen, Ormoc etc. los daños y pérdidas causadas por el temporal fueron ya de poca consideración. De donde puede decirse que el área de destrucción de este baguio tenía de 30 a 40 millas de radio al norte de la trayectoria. Lo mismo podría asegurarse del área de destrucción al sur de la trayectoria, pues, según el *report* del observador de Surigao que hemos copiado arriba, en Placer y en Gigáguit, pueblos situados al sur de aquella estación y distantes del vórtice unas 35 millas, los efectos del temporal fueron de muy poca consideración comparados con los de Dinágat y Surigao. Claro está, sin embargo, que los daños, pérdidas y víctimas que causó este baguio en toda la parte meridional de Leyte eran mayores en proporción de la menor distancia de la trayectoria. Todos los pueblos que se hallaron a menos de veinte millas del vórtice describen las pérdidas sufridas como incalculables y la situación después del baguio como horrible y espantosa. De algunos pueblos situados en el vórtice o muy cerca de él, como Matalom, Hinungayan, Liloan, Cabalián, Sogod etc. se dice que quedó todo prácticamente destruído incluso los edificios de materiales fuertes como la casa-municipio, la iglesia, convento etc. El área de completa o casi completa devastación tenía aparentemente un radio de 10 a 15 millas, extendiéndose por el norte hasta Inopacan en la costa occidental de Leyte y más allá de Hinunangan en la costa oriental, y comprendiendo por el sur buena parte de la Isla de Panaón.

El Coronel Rivers en un *report* al General Bandholtz, escrito después de haber recorrido la parte de Leyte damnificada por el temporal, resumía en estos términos el aspecto de los pueblos en Panaón y en la bahía de Sogod:

Panaón y la bahía de Sogod puede llamarse el área de devastación. El aspecto general de estos pueblos le recuerda a uno los pueblos devastados por la erupción del Taal, exceptuando por supuesto la pérdida de vidas y las cenizas. La destrucción fué casi la misma en la costa oeste hasta Inopacan y en la costa este hasta Hinunangan. Bancas y otras pequeñas embarcaciones se ven encalladas en todas partes.

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Perecieron de 80 a 100 personas: unas ahogadas en embarcaciones, y otras en tierra aplastadas por la caída de las casas o por los derrumbamientos de terreno que fueron numerosos en las

escarpadas y desnudas laderas que rodean la bahía. A haber pasado el tifón de noche, las pérdidas de vidas hubieran sido mucho mayores. El vórtice pasó evidentemente un poco al norte de Liloan y entre Banday y Malitbog.

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La suma de víctimas mencionadas pueblo por pueblo en las estadísticas oficiales obtenidas por medio del observador de Tacloban asciende a 71, si bien faltaba todavía algún informe de algunos pocos barrios o pueblos. El General Bandholtz en un *report* al Secretario Ejecutivo hace ascender a 75 el número de víctimas fundado únicamente en el número de cadáveres encontrados. De todo lo cual se puede deducir ser bastante acertado el cálculo del Coronel Rivers al decir que perecieron de 80 a 100 personas.

En las Láminas VIII y IX van dos vistas de Cabalián y dos de Hinunangan tomadas después del baguio.

El tifón en las Islas Camotes y en Bohol.—Según las observaciones de Maasín, el tifón hubo de abandonar la Isla de Leyte entre 3 y 4 p. m. del día 15. El vórtice había evidentemente pasado en dicha hora por algún punto de la costa situado al S de Bató al N de Maasín, pues en Bató los vientos habían rolado del N al E, y en Maasín del NW al SW. El Observatorio de Manila no podía ser más acertado al decir, en un aviso de tifón dado la tarde del 15, lo siguiente:

El tifón se halla esta tarde entre las Islas de Leyte y Cebú, moviéndose al W.

Como el vórtice pasó casi equidistante por entre las Islas Camotes y la Isla de Bohol y a una corta distancia de 10 millas o poco más, ya se comprende que se hubieron de sentir allí los efectos destructores del temporal, muy particularmente en la parte sur de las Islas Camotes y la parte norte de Bohol.

En un *report* del gobernador de Cebú, Sr. Manuel Roa, al Gobernador General hallamos los siguientes detalles referentes a los efectos del tifón en las dos poblaciones principales de las Islas Camotes, Tudela y San Francisco:

Tudela.—Dos terceras partes de las casas se hallan destrozadas por completo y todos los sembrados y plantaciones inutilizados. Los edificios municipales situados en el barrio de Poro han sufrido grandes desperfectos. La casa-escuela de Tudela se halla destechada, y la casa-municipal en construcción echada abajo.

San Francisco.—Pérdidas personales: 15 cadáveres recogidos y enterrados. Se recogieron 6 personas vivas arrastradas por la corriente, y que procedían al parecer de algunos islotes situados entre Cebú y Bohol. Han sido destruídas las casas escuelas de la población y las de todos los barrios, y la casa-municipal y 542 casas de vecinos.

El General Bandholtz en su report al Secretario Ejecutivo hace constar que se hallaron 25 cadáveres que no eran de los habitantes de aquella isla y que se recogieron además 15 náufragos.

Por lo que toca a la Isla de Bohol, recibimos por medio de nuestro observador de Tagbilaran, Sr. Francisco Burgos, estadísticas completas de los daños causados por el baguio en cada uno de los pueblos de aquella provincia. Según estas estadísticas se calculan las pérdidas totales de toda la provincia en ₱229,578, incluyendo en esta suma intereses marítimos, caminos, edificios públicos y privados. Se registraron 54 personas muertas distribuídas en varios pueblos en esta forma: Calape, 1; Candijay, 3; Jetafe, 34; Loay, 2; Mabini, 1; Talibon, 10; y Ubay, 3.

El General Bandholtz menciona en su *report* de 30 de Octubre solamente 10 muertos en Bohol. Pero debe tenerse en cuenta, según advierte él mismo, que al tiempo de escribir dicho *report* todavía había muchos pueblos de los cuales no se habían recibido aún informes. Las estadísticas del observador de Tagbilaran nos fueron remitidas con fecha 7 de Noviembre.

El tifón en la Isla de Cebú.—El Observatorio de Manila envió este apremiante aviso de tifón al observador de Cebú a 11.25 a. m. del día 15:

El tifón atravesará probablemente esta noche la pate norte de la Isla de Cebú.

Lo mismo se repitió a cuantos nos preguntaron, como el Superintendente de la estación de la "Eastern Extension Co." y al capitán del vapor *Kaiphong* que se hallaba a la sazón en aquel puerto. El observador de Cebú, por su parte, Sr. Domingo de los Angeles, procuró dar toda la publicidad posible al aviso alarmante del Observatorio Central, haciendo que se diesen bandillos en la capital y demás pueblos y barrios próximos. Por desgracia los habitantes de Cebú no hicieron apenas caso de estos pronósticos persuadidos, según decían, de que los baguios no pasan por Cebú. Si se hubiesen tomado las debidas precauciones, como se hizo en otras partes, el número de víctimas no hubiera sido tan crecido como fué, según veremos luego. Contribuyó también a que hubiese en Cebú muchas más víctimas que en Leyte, a pesar de que el temporal no era tan intenso, el haber pasado el vórtice cerca de media noche, cuando por Leyte pasó en pleno día. Estas son las dos causas que señalan casi todos para explicar de alguna manera que hubiese tantas víctimas en la Isla de Cebú. Por lo demás, el temporal, aunque muy intenso, hubiera podido ser muchísimo peor, y en efecto lo era cuando penetraba el vórtice en el Archipiélago la mañana del mismo día 15. El General Bandholtz dice explícitamente esto mismo con estas palabras: "* * * De todos modos la intensidad del tifón parecía disminuir gradualmente a medida que avanzaba al oeste."

El aviso de tifón del Observatorio de Manila trasmitido, según dijimos, antes de mediodía del 15 no pudo salir más exacto en todas sus partes. El vórtice penetró, en efecto, en la Isla de Cebú por el norte de la capital a eso de 10 p. m. de dicho día. En el texto inglés publicamos en una tabla las observaciones hechas durante el paso del baguio, por nuestro observador de Cebú. Además en la Lámina V reproducimos la curva barógrafica obtenida en aquella estación. Una simple comparación de estas observaciones y de esta curva con las observaciones y la curva de Maasín bastará para comprender que la intensidad del temporal hubo de ser mucho menor en Cebú que en Maasín. La mínima barómetrica en Cebú fué 735.06 mm. y se registró a 10.15 p. m. del 15 con vientos muy violentos del W.

Para dar alguna idea de la manera como desfogó el tifón en la capital de la Isla de Cebú y en los pueblos y barrios más inmediatos copiaremos ante todo parte del *report* que nos remitió nuestro observador a raíz de los sucesos:

El baguio del 15 al 16 del presente pasó cerca por el N de esta población a una distancia que estimo no bajará de 12 a 15 millas a juzgar por la mínima habida y los efectos causados por tan terrible meteoro.

Por el cuadro adjunto se verán las alturas barométricas durante su paso, la dirección y fuerza del viento y la cantidad de lluvia caída mientras el pluviómetro se pudo conservar, pues este aparato fué arrastrado por la fuerza de los vientos. Los demás aparatos se salvaron sufriendo mojaduras, incluso los papeles y libros de la oficina, porque si bien el viento era descendente desde el principio hasta el fin, pero al golpear al suelo su reflejo hacía remangar las nipas y daba paso a la lluvia torrencial que caía: esto mismo sucedió a muchas casas salvadas, de material mixto. Angustiosa noche ha pasado Cebú del 15 a la mañana del 16! El role de los vientos fué completo del NNW al SSW y S. Los destrozos ocurrieron en toda la zona de material mixto que es la masa mayor de la población; hubo desgracias personales por hundimientos de vapores, cascos, lorchas etc. en el mismo puerto; muchas casas eran arrastradas por la impetuosa corriente de esteros desbordados, pues el agua venía de los montes en forma de torrente, y ello combinado con la pleamar y la fuerza del huracán no es exagerado decir que el agua y la mar convirtieron en rompiente las bodegas y las calles cerca del muelle nuevo donde fondean los vapores. Y aunque en los puntos elevados tendría poca profundidad el agua, pero en los sitios bajos como los barrios de Pasil, Ermita y el pueblo de San Nicolás, el mar y la inundación se coadyuvaron para hacer muchas víctimas.

En todas las playas hasta Mandaue y Consolación se van recogiendo muchos cadáveres, siendo imposible identificar muchos de ellos. Se ignora de donde procedieron, aunque es de suponer que de los buques, cascos y bancas, y algunos también de los sitios de la inundación.

La vía férrea sufrió grandes desperfectos por la parte del norte donde el agua desbordada se llevó puentes y terraplenes. En esta ciudad de Cebú los hilos telegráficos, telefónicos y luz eléctrica, todo quedó averiado y por el suelo.

De otro *report* oficial de Mr. A. J. Robertson, senior inspector, tomamos los siguientes interesantes párrafos que dan alguna idea de la intensidad del temporal en la ciudad de Cebú.

Esta provincia fué visitada la noche del 15 con un tifón, el más destructor que se conoce en su historia. Se habían dado avisos preventivos del temporal desde la madrugada de aquel día y diferentes patrullas recorrieron durante el día los barrios próximos avisando al pueblo que asegurase sus casas y efectos.

El viento que había sido racheado durante la tarde, empezó a soplar con violencia a eso de 7.30 p. m. y continuó con fuerza creciente hasta 4 a. m. del 16. Fué acompañado de pequeñas olas que sumergieron la parte baja de la ciudad unos 4 y 5 pies (1½ metros) debajo del agua y causaron muchas pérdidas materiales y considerable número de víctimas.

A eso de 8 p. m. envié patrullas a los barrios para socorrer a los desgraciados y traer al cuartel a cuantas personas habían quedado sin casa ni hogar. A media noche habían traído de 400 a 500: mas como el cuartel se quedó sin techo y ambos departamentos de los oficiales habían sido destruídos en parte, el alojamiento que les pudimos dar no era de lo mejor.

A las 10 era casi imposible salir debido a la violencia de los vientos y a los objetos que volaban por el aire procedentes de las ruinas de los edificios. El teniente Rayburn que acompañaba al Dr. Pond y al que esto escribe con algunos hombres de la segunda compañía fué materialmente levantado del suelo por el viento e impelido con violencia a la distancia de unos 20 pies.

Al amanecer (del día 16) el viento, aunque todavía violento, había disminuído lo suficiente para poder salir sin grave peligro, y varias patrullas fueron distribuídas a todas las partes de la ciudad para que hiciesen lo posible para socorrer a los necesitados y para reunir los cadáveres, 20 de los cuales fueron recogidos por la Constabularia solamente. La ciudad presentaba un aspecto horroroso: todas las casas de materiales ligeros habían sido prácticamente destruídas y las de materiales fuertes destechadas.

Los siguientes detalles los tomamos del *report* del gobernador de la provincia, Sr. Roa:

Las pérdidas generales causadas por el baguio se calculan de ₱2,000,000 a ₱4,000,000. Algo se podrá reducir esta cantidad si puede salvarse parte de las mercancías. Estas pérdidas en mercancías ocurrieron principalmente en las bodegas: en las pequeñas tiendas fueron de poca consideración. Mucho se salvó por hallarse en casas de materiales fuertes. Las pérdidas más grandes han ocurrido en la línea de embarcaciones. Prácticamente ninguna se libró.

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Según *reports* recibidos hasta el presente, la zona de destrucción de este baguio parece extenderse hasta Borbon, por el norte, y hasta Naga, por el sur. En la contracosta los mayores daños fueron, según parece, en Asturias y Toledo. Hubo no sólo pérdidas materiales sino también pérdidas de vidas. Toledo sufrió de una manera muy notable. En consecuencia el camino a dicho pueblo está prácticamente destruído u obstruído. En esta ciudad el número de cadáveres recogidos no llega por ahora a 100. La mayor destrucción en edificios ha sido en casas pequeñas. Ha habido barrios de nipa completamente destruídos. La calle principal en el muelle está destruída en parte.

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Cuanto a los edificios públicos, poco han sufrido.

De lo que se dice al fin de este *report* del Sr. Roa acerca de lo poco que sufrieron los edificios públicos y de lo que oímos decir a testigos presenciales, entre ellos el capitán del vapor *Kaiphong*, Mr. J. V. Sidford, la fuerza de los vientos, al menos por lo que toca a la ciudad misma de Cebú, no fué tan extraordinaria si se compara con la observada en las cercanías de otros tifones bien desarrollados y de grande intensidad. De ahí que en varios *reports* de observaciones meteorológicas que recibimos de Cebú se señale la fuerza

11 de la escala de Beaufort [1] como fuerza máxima durante el baguio. Examinando con cuidado el registro de la velocidad del viento obtenido en aquella estación meteorológica hallamos que la mayor velocidad en una hora entera se registró de 11 p. m. a 12 mn. del 15, en el cual tiempo el viento anduvo 80 kilómetros (49.7 millas), velocidad que corresponde al número 9 de la escala Beaufort. Tomando intervalos de solos cinco minutos, encontramos que corrió el viento 7.7 kilómetros (4.8 millas) de 11.15 a 11.20 p. m. del 15, y de 1.15 a 1.20 a. m. del 16, lo cual daría una velocidad de casi 58 millas por hora, o sea, fuerza 10 de la escala Beaufort. Habiendo comparado estos resultados con los obtenidos en la estación de Surigao donde, según el anemógrafo, el viento registró en una hora entera la máxima velocidad de 72 millas (fuerza 11 de la escala Beaufort), y teniendo en cuenta que la fuerza del viento, a juzgar por sus efectos, no parece de ningún modo haber sido menor en Cebú que en Surigao, hemos creído que el registro anemográfico de Cebú no nos merecía confianza, bien por algún defecto del mecanismo en las horas en que más soplaba el viento, bien por defecto de instalación. Por esta causa en la tabla de observaciones de Cebú hemos suprimido la velocidad del viento en millas por hora sustituyéndola por la fuerza del viento según la escala 0–12, tal como fué calculada por el observador. Conforme a este cálculo fundado en los efectos del viento, éste sopló por espacio de varias horas con la fuerza de 10 a 11, o sea, con una velocidad de 60 a 70 millas. El capitán del *Kaiphong* nos da en su report la velocidad máxima de 11 a 12, esto es, de 70 a 80 millas por hora. Sea lo que fuere de estas apreciaciones, parece cierto que apenas llegó el viento a adquirir de lleno la fuerza 12 de la escala Beaufort (más de 75 millas por hora), si no es acaso en rachas aisladas y de poca duración. Se sigue de ahí que a no haber sido por las lluvias verdaderamente extraordinarias y torrenciales que acompañaban el vórtice y que fueron la causa de tanta inundación, los efectos de este baguio en Cebú no hubieran superado mucho los efectos de un baguio común y ordinario.

Lástima que la fuerza del viento se llevase el pluviómetro de nuestra estación a eso de 7 p. m. del día 15, privándonos de uno de los datos más valiosos para la discusión de este tifón. A nosotros nos parece que el cálculo aproximado hecho por el observador (véase la tabla de observaciones en el texto inglés) debe distar bastante de la realidad. Cuál sería la máxima lluvia en una hora en Cebú, no nos consta, ni nos es posible consignarla. Es asimismo imposible saber el total de lluvia en las veinticuatro horas.

[1] Para conveniencia de aquellos de nuestros lectores que no estén familiarizados con esta escala de Beaufort daremos aquí el significado de la misma:

Número y denominación.	Velocidad.		
	Millas por hora.	Kilómetros por hora.	Metros por segundo.
0—Calma	3	4.8	0– 1.3
1—Ventolina	8	12.9	1.4– 3.6
2—Viento muy flojo	13	20.9	3.7– 5.8
3—Viento flojo	18	29.0	5.9– 8.0
4—Viento bonancible	23	37.0	8.1–10.3
5—Viento fresquito	28	45.1	10.4–12.5
6—Viento fresco	34	54.7	12.6–15.2
7—Viento frescachon-fuerte	40	64.4	15.3–17.9
8—Viento duro	48	77.2	18.0–21.5
9—Viento muy duro	56	90.1	21.6–25.0
10—Temporal	65	104.6	25.1–29.1
11—Borrasca	75	120.7	29.2–33.5
12—Huracán	90	144.8	33.6–____

antes de 6 a. m. del 16. El P. Saderra nos asegura que, a juzgar por los efectos de la inundación en los puentes, carreteras públicas, vías férreas, etc. en toda la isla de Cebú, con señales claras de grandes masas de agua procedentes del interior y no del mar, la lluvia que cayó allí durante el baguio hubo de haber sido increíble, realmente excepcional y contra lo que suele suceder aun en los tifones más intensos.

Creemos que lo dicho bastará para que nuestros lectores se formen alguna idea de los efectos de este baguio en la ciudad de Cebú. Algunas vistas fotográficas que reproducimos en las Láminas X, XI y XII servirán para el mismo objeto.

Nos haríamos interminables si quisiésemos referir aquí los daños causados por el baguio en todos los pueblos de una isla tan poblada como Cebú. Nos contentaremos solamente con decir cuatro palabras sobre el punto por donde penetró el vórtice en la isla, sobre la extensión del área de destrucción en ambas costas y sobre el número de víctimas que hubo en aquella memorable noche del día 15 al 16.

Cuanto a lo primero, los datos recogidos por el observador de Cebú en un viaje al norte de la isla a lo largo de la costa oriental, parece dejar fuera de toda duda que el vórtice pasó por entre Danao y Liloan a la distancia de Cebú de unas 11 millas. La mínima observada en Danao fué 728 mm., y la de Liloan, 730 mm. Los barómetros de ambos pueblos son de confianza, según el parecer del observador de Cebú. En Liloan, parece casi cierto que los vientos rolaron del NW al W, SW y S, mientras que en Danao soplaron del NNW, N y NNE antes de pasar el vórtice, y del SE, S y SW después. En Maslog, barrio situado muy cerca al sur de Danao, la dirección en que cayeron casas, árboles etc., indican que soplaron vientos huracanados del E. Aunque estos datos bastarían para comprobar nuestro aserto, hay todavía otro tanto o más convincente, y es que tanto en Danao como en Liloan se observaron unos diez minutos de calma relativa en la hora de la mínima barométrica, y en los barrios situados entre dichos dos pueblos, el tiempo de calma fué mayor, llegando a durar una media hora en algunos barrios al sur de Compostela y aun en la entrada de Compostela por la parte del sur.

Creemos, pues, muy acertada la siguiente conclusión deducida de todos estos datos por el observador de Cebú:

> En vista de estos datos recogidos desde Liloan a Danao viajando por la carretera y vistos los objetos destruídos por el huracán, creo que el centro del tifón entró en la isla de Cebú por el barrio o sitio de Cutcut (o Cotcot) abarcando una zona que se extendía desde el barrio de Jubay hasta la entrada de Compostela. Los pueblos de Liloan y Danao cortaron el centro por una cuerda muy pequeña.

Por lo que toca a la extensión del área de destrucción de este tifón cuando atravesaba la isla de Cebú, se deduce de todos los *reports* que tenemos a la vista que comprendía los pueblos de Borbón por la parte norte y Naga por la parte sur de la costa oriental, y se extendía desde Tuburan hasta Aloguinsan, ambos pueblos inclusive, en la costa occidental. Otras poblaciones situadas más allá de estos límites, tanto por el norte como por el sur, sufrieron relativamente poco. Como los pueblos indicados, incluyendo los barrios situados al norte y al sur respectivamente, distan entre sí unas 50 millas, podemos decir que el área de destrucción de este baguio en Cebú tenía un radio de unas 25 millas. Los pueblos en que parece haber desfogado el temporal con más violencia son Mandawe y Toledo.

El número de víctimas en toda la isla de Cebú, la mayor parte de ellas ahogadas, puede decirse que oscila entre 350 y 400. El gobernador Roa decía con fecha 28 de Octubre que, sin contar las de la capital, ascendían hasta entonces a 221. Y como en la capital hubo 127, tendríamos un total de 348. Nosotros hemos tenido la paciencia de ir anotando para cada pueblo de la provincia el número de muertos dado en los varios *reports* oficiales que han llegado a nuestras manos, y hemos obtenido un total de 364 según unos *reports* o 372 según otros. Fundados en esto hemos dicho que el número de vícti-

mas oscilaba entre 350 y 400. Sin embargo, dada la posibilidad de que un buen número de cadáveres no pudieron encontrarse, bien pudiera ser que en realidad hubiese llegado a haber unas 500 víctimas del tifón en sola la isla de Cebú.

Los pueblos que contaron con mayor número de víctimas fueron: Cebú 127, Toledo 116, y Mandawe 20.

El tifón en las islas Negros y Panay.—El Observatorio de Manila decía lo siguiente en la nota ordinaria del tiempo del día 16:

> El tifón de las Visayas se hallaba esta madrugada en los alrededores de la parte norte de las islas Cebú y Negros, moviéndose al W o WNW.

Y en un aviso de tifón dado a 3.15 p. m. del mismo día 16, se anunció la probable inclinación de la trayectoria al N en estos términos:

> El tifón se halla esta tarde en Panay hacia el norte de Iloílo moviéndose muy despacio. Es probable que esté inclinando su trayectoria al norte. Navegación aún peligrosa entre Luzón y Panay.

Pocos son los datos que hemos podido obtener de la parte norte de la isla de Negros para trazar la trayectoria del tifón a través de aquella isla. Sin embargo, como consta que los vientos en Manapla (costa NW de Negros) rolaron del N al W, y además los efectos del tifón en la costa oriental fueron sentidos principalmente entre Escalante y San Carlos, tenemos por muy probable que el vórtice se movió al NW$\frac{1}{4}$W desde Cebú a Negros, y que atravesó esta isla por el sur de Escalante y norte de San Carlos, aunque mucho más cerca de Escalante que de San Carlos, para poder pasar luego por el norte de Manapla en dirección a la parte nordeste de la isla de Panay.

Que el tifón iba inclinando su trayectoria más y más al norte, según lo indicado en las notas del Observatorio, es por demás evidente, sobre todo si se examinan con atención las observaciones hechas en Iloílo y Cápiz, estaciones situadas una en el sur y otra en el norte de la isla de Panay. Si la trayectoria hubiese continuado flechada al W como al principio, el vórtice hubiera pasado muy cerca por el sur de Iloílo, siendo así que de hecho pasó por el norte y a la distancia de unas 50 millas. De ahí que, a pesar de lo peligroso que era la situación del tifón para aquella ciudad durante los dos días anteriores, los efectos del temporal fueron relativamente de poca importancia. Afortunadamente también para Cápiz y demás pueblos de la parte septentrional de Panay, el baguio no sólo fué inclinando su trayectoria al norte sino que al propio tiempo iba disminuyendo en intensidad a medida que avanzaba con lentitud en su movimiento de traslación. Para que se vea esto con claridad hemos reunido en la Lámina XIII las isobaras de 10 p. m. del 15 y 2 p. m. del 16. Una simple comparación de entrambas hace ver cuán diferente era la forma y desarrollo del tifón cuando se hallaba en Panay de la forma y desarrollo que tenía cuando demoraba el vórtice en la costa oriental de Cebú. Lo mismo puede decirse relativamente de las isobaras de 10 p. m. del 15 comparadas con las de 2 p. m. del mismo día (Láminas VII y XIII).

En el texto inglés damos algunas de las observaciones hechas en Iloílo y Cápiz los días 15, 16 y 17. En Cápiz se observó cerca de una hora y media de calma absoluta con una mínima barométrica que no fué menor de 740.9 mm. Es esto una prueba convincente de lo deformado que se hallaba el vórtice después de haber cruzado las islas Leyte, Cebú y Negros.

El General Bandholtz decía en un telegrama al Secretario Ejecutivo con fecha 25 de Octubre: "El tifón parece que iba perdiendo en fuerza al cruzar el estrecho de Tañón (entre Cebú y Negros)." En un *report* de Mr. J. F. Quinn, Major, Philippines Constabulary, se dice lo siguiente después de una larga relación de los efectos del tifón en la costa Occidental de Cebú y oriental de Negros: "El temporal fué mucho menos violento en la costa de Negros (que en la costa de Cebú), y causó daños de poca consideración excepto en San Carlos y Escalante."

En Escalante tuvo lugar el naufragio del vapor *Tayabas* de la Compañía General de Tabacos de Filipinas. Da cuenta de él Mr. Quinn en el *report* citado con estas palabras:

El *Tayabas* se hundió en 40 pies (12 metros) de agua al sur de la entrada del río Danao a donde el barco se iba a refugiar cuando se hundió. Sus palos están rotos, pero se llegan a distinguir sus extremidades con baja marea. De 51 personas que llevaba entre pasajeros y tripulación, sólo se salvaron 19 pereciendo los restantes. Trece cadáveres pudieron ser recogidos y enterrados por las autoridades municipales de Escalante. El lugar del naufragio fué visitado por lanchas de la Compañía Tabacalera y un buzo bajó a examinar el interior del barco. El cadáver de una joven americana, Miss Lambert, de Iloílo, fué recogido dos días después del naufragio y llevado a aquella ciudad por su padre para enterrarlo allí.

Además de estas, hubo otras dos víctimas en San Carlos, según se mencionan en el mismo *report*. Esto por lo que toca a la costa oriental de Negros. Cuanto a la costa occidental, tenemos a la vista un telegrama de Mr. John B. Bennet, director de distrito de la Constabularia de Filipinas, fecha 23 de Octubre, en el cual se dice que el total de muertos en los pueblos de la costa Occidental de Negros asciende a 54, además de 24 personas desaparecidas. Con todo, en el *report* enviado dos días después por el mismo Mr. Bennet al Inspector Ejecutivo de Manila, solamente hallamos mención de 16 personas ahogadas y de otras 20 desaparecidas.

También en la isla de Panay hubo algunas víctimas del tifón, además de las pérdidas materiales que se pueden suponer. Según las estadísticas oficiales que nos remitió el observador de Iloílo, hubo en toda aquella provincia 26 víctimas: 15 de ellas del pueblo de San Joaquín perecieron aplastadas en la casa donde vivían por un desprendimiento del monte *Kangilidquilida*. Las inundaciones y efectos consiguientes fueron generales en toda la isla de Panay como lo habían sido en las otras islas atravesadas por este baguio. En la Provincia de Antique se registraron 7 víctimas del baguio. No tenemos noticia de las ocurridas en la Provincia de Cápiz.

Curso ulterior de este tifón hasta Indochina.—Dijo el Observatorio en un aviso de tifón dado a 10.45 p. m. del 16:

El tifón se halla ahora sobre la parte noroeste de la isla de Panay, moviéndose aparentemente al WNW. Si no hay nuevo cambio de dirección, el centro del tifón pasará mañana por la mañana muy cerca de la parte sur de Mindoro.

Según se vió el día siguiente, el tifón se había inclinado un poco más al norte de lo que se suponía la noche anterior, llegando a dirigirse al NW y viniendo por lo tanto a atravesar la parte central de la isla de Mindoro. Véase lo que dijo a este efecto el Observatorio la mañana del 17:

Día 17, 8.20 a. m.: El tifón ha inclinado su trayectoria un poco más al norte, hallándose su centro al presente en, o cerca de, la isla de Mindoro moviéndose al NW¼W.

Habiendo enviado varios cuestionarios a los presidentes municipales de Mindoro, hemos recogido los siguientes datos que nos han servido para trazar la trayectoria a través de aquella isla. No sólo en Calapán, pero aún en Pola y Pinamalayan, pueblos situados en la parte norte de la costa oriental de Mindoro, los vientos volaron del N al E, mientras que en San José, Mangarín y Bulalacao, de la costa sudeste y sudoeste de dicha isla, rolaron del N al W y SW. El vórtice, por consiguiente, hubo de atravesar el centro de la isla en su movimiento de traslación al NW¼W. Además, en Mambúrao se observó casi lo mismo que se había observado en Cápiz, es decir, hubo calma que duró unas dos horas con vientos muy fuertes del N y NE antes de la calma, y del SE después. De donde el vórtice pasó probablemente por los alrededores de aquella población, según lo hemos supuesto en la trayectoria de este baguio, Lámina V.

El tifón abandonó la isla de Mindoro y entró en el mar de China a eso de 2 p. m. del 17. Una vez en el mar de China volvió a inclinarse decididamente al W, y así vino a penetrar en Indochina por los alrededores del paralelo 15° N. Al propio tiempo

aumentó de una manera tan considerable su velocidad de traslación, que en solas 45½ horas se trasladó de Mindoro a Indochina, siendo así que sólo en atravesar las Filipinas desde Dinágat hasta la costa occidental de Mindoro había empleado unas 55 horas. Sobre el día y hora en que llegó el vórtice a Indochina y el punto de la costa por donde pasó no nos puede caber la menor duda dados los numerosos datos, observaciones y curvas barográficas que tuvo a bien remitirnos M. G. Le Cadet, director del observatorio de Phulien. El centro del tifón pasó muy cerca de Quang-Ngai (15° 08′ lat. N, 108° 50′ long. E) a las 11.30 a. m. del 19, como se desprende de la curva barográfica que reproducimos en la Lámina V, y de las observaciones hechas en las demás estaciones a lo largo de la costa de Indochina. Como se ve, este baguio llegó a Indochina por el mismo punto que el anterior del 12–13 procedente del canal de Balintang (véanse las trayectorias de ambos en la Lámina V). Sobre los efectos causados por estos dos tifones en Quang-Ngai nos dice M. Cadet lo siguiente:

La estación de Quang-Ngai me ha enviado la información siguiente sobre los daños causados por estos dos tifones:

"Muchas casas de materiales ligeros derribadas; algunos árboles arrancados de cuajo; algunos edificios de ladrillo destruídos y otros con desperfectos.

"Postes telegráficos derribados, la línea telegráfica interrumpida en muchos puntos.

"Las cosechas de arroz y maíz perdidas en sus tres cuartas partes.

"La caña de azúcar muy castigada."

Al sur de la trayectoria y cerca de la costa de Indochina se encontraron los vapores *La Manche* y *Paul Lecat.* Las observaciones hechas a bordo de ambos barcos nos fueron remitidas por los directores de los observatorios de Phulien y Hongkong respectivamente, y las publicamos juntas en una tabla en el texto inglés. Conviene advertir acerca de estas observaciones que la mínima barométrica tuvo lugar a bordo de estos dos barcos antes de pasar el vórtice por el norte. Fué esto debido al rumbo que emprendieron al S o SE con el fin de alejarse del centro del tifón.

Avisos de tifón entre Manila y Hongkong.—El Observatorio de Manila envió, como de costumbre, a los observatorios extranjeros del Extremo Oriente estos cablegramas referentes a este tifón:

Día 14, 8.45 a. m.: Tifón al E de las islas Visayas, moviéndose al W o WNW.
Día 14, 4.15 p m.: Tifón al E de las islas Visayas, moviéndose al W.
Día 15, 10.55 a. m.: Tifón cruzando las Visayas orientales, moviéndose al W.
Día 16, 11.58 a. m.: Tifón cruzando las Visayas occidentales, moviéndose al W o WNW.
Día 16, 10.35 p. m.: Tifón cruzando las Visayas occidentales, moviéndose al WNW.
Día 17, 8.20 a. m.: Tifón en, o cerca de, Mindoro, moviéndose al WNW o NW.
Día 18, 9.30 a. m.: Tifón al W de Luzón, distancia mayor de 100 millas, moviéndose al WNW o NW.

Del Observatorio de Hongkong recibimos a la vez estos avisos de tifón:

Día 14, 11.05 a. m.: Tifón al SE de Luzón, moviéndose al W.
Día 15, 11.50 a. m.: Tifón al S de Luzón, moviéndose al W.
Día 16, mediodía.: Tifón al S de Luzón, moviéndose al W.
Día 16, 4.45 p. m.: Tifón al SE de Manila, moviéndose al NE.
Día 17, 11.15 a. m.: Tifón al S de Manila, moviéndose al WNW.
Día 18, 11.30 a. m.: Tifón al W de Luzón, moviéndose al WNW.
Día 18, 5.25 p. m.: Tifón al NW de la Paragua, moviéndose al W.

Velocidad de traslación.—Antes de terminar la discusión de este tifón diremos algo, aunque sea muy brevemente, sobre la velocidad de traslación de este baguio y sobre si se observó o no en Filipinas la llamada ola del huracán.

El Observatorio de Manila insistió muchas veces en la idea de que el baguio se movía lentamente durante los días 15 y 16, así en las notas del tiempo y avisos de tifón como en consultas de varios capitanes o casas navieras que tenían sus barcos detenidos

en Manila o en los puertos de las islas Visayas. El hecho solo de que el vórtice empleó 55 horas en atravesar el Archipiélago cuando otros tifones emplean en ello un solo día, y aun en algunos casos, aunque raros, menos de un día, es una prueba más que evidente de la verdad de estos avisos del Observatorio. A fin de dar algún dato exacto y positivo sobre el particular hemos escogido dos puntos de la trayectoria que mejor sirven para dar de una manera aproximada la velocidad en millas por hora con que avanzó este baguio desde la isla de Leyte hasta la isla de Cebú. Estos puntos son Maasín y Cebú. Las curvas barográficas de ambas estaciones pueden verse en la Lámina V. Según estas curvas, el vórtice pasaba a la menor distancia de Maasín a 2.50 p. m. del 15, y a la menor distancia de Cebú a 10.15 p. m., lo cual da un intervalo de tiempo de $7\frac{1}{2}$ horas próximamente. Ahora bien, la distancia que media entre Maasín y Cebú es de 58 millas: luego la velocidad de traslación del baguio en este tiempo era de 7.7 millas náuticas por hora.

Examinando con cuidado toda la trayectoria de este baguio, se verá que esta velocidad de traslación se conservó casi la misma mientras estuvo el vórtice dentro de Filipinas, pero aumentó extraordinariamente en cuanto se internó en el Mar de China, según queda ya indicado más arriba. Para averiguar con alguna aproximación la velocidad media horaria con que atravesó el baguio la distancia que media entre nuestro Archipiélago y la costa de Indochina hemos tomado como puntos de comparación la hora aproximada en que abandonó el vórtice la costa occidental de Mindoro, o sea 2 p. m. del 17, y la hora en que llegó a Indochina, o sea 11.30 a. m. del 19, según la curva barográfica de Quang-Ngai. Ahora bien, dichos puntos distan entre sí unas 688 millas. Habiendo, pues, salvado el vórtice esta distancia en $45\frac{1}{2}$ horas, tenemos que se movía con una velocidad media de 15.1 millas por hora. Este cálculo, sin embargo, supone una trayectoria en línea recta desde Mindoro a Indochina, lo cual no fué exactamente así en nuestro caso. Para obviar algo esta dificultad, y para que se vea al propio tiempo que la velocidad no era uniforme sino que iba aumentando gradualmente, hemos dividido esta porción de la trayectoria en dos partes, una de 2 p. m. del 17 a 2 p. m. del 18, y otra de 2 p. m. del 18 a 11.30 a. m. del 19 (véase la Lámina V). El tifón se movió con una velocidad media de 13.6 millas por hora en la primera parte, y de 17 millas por hora en la segunda. Esto daría un promedio general de 15.2 millas por hora.

Se observaron en Filipinas durante el paso de este tifón los efectos destructores de la ola del huracán.—Tan alarmantes eran las primeras noticias cablegráficas que se recibieron en Manila sobre los efectos de este tifón, el número de víctimas ocurridas en sola la isla de Cebú se exageró tanto, que casi llegamos a creer en un principio que la llamada ola del huracán debía de haber revestido en este baguio un carácter verdaderamente excepcional. Venía a confirmar nuestros temores una expresión usada en uno de los cablegramas que apenas parecía poder explicarse sino suponiendo esta ola del huracán. Sin embargo, desde el momento que se supo en Manila lo exagerado que habían sido las primeras noticias, se desvanecieron nuestros temores al menos por lo que toca a la isla de Cebú. Cuanto a la isla de Leyte, aunque el peligro de la ola había sido allí mucho mayor por aquello de que fué una de las primeras islas atravesadas por el vórtice, con todo, los datos que hemos recibido son a nuestro modo de ver bastante convincentes para poder asegurar que si existía dicha ola cuando el tifón entró en Leyte, hubo de ser relativamente de poca importancia.

Más antes de entrar en más detalles sobre el particular, debemos indicar brevemente qué es lo que se entiende por *ola del huracán.* Ninguna descripción mejor de ella podemos ofrecer a nuestros lectores que la que dió el P. Benito Viñes con estas palabras[1]:

La fuerte depresión que se origina en el interior del meteoro, sobre todo hacia su región central, hace que el huracán acentúe su aspiración sobre las aguas y las eleve y suspenda en una cantidad proporcional al exceso de las presiones exteriores sobre las interiores, de una manera análoga a lo

[1] Apuntes relativos a los huracanes de las "Antillas," Habana, 1877, página 192.

que se verifica en la bomba aspirante, desde el momento en que empieza a producirse el vacío parcial en el interior del cuerpo de la bomba. El impulso de los vientos giratorios convergentes concurre a este mismo efecto, produciendo en el mar corrientes convergentes que tienden a acumular las aguas en el vórtice del ciclón.

Las aguas acumuladas bajo la influencia de estas dos causas forman la denominada *ola del huracán,* ola piramidal y disforme, cuya cresta o vértice corresponde próximamente al vórtice del ciclón. Esta inmensa ola acompaña siempre al meteoro en su movimiento de traslación, y al ser lanzada contra la costa hace subir las aguas a una altura extraordinaria y a veces asombrosa, causando terribles inundaciones y sembrando por doquier el espanto y la desolación.

Bueno será indicar aquí algunos caracteres propios de la ola ciclónica como distinta de otras olas. En primer lugar carece esta ola de flujos y reflujos tan propios de otras olas, como la ola séismica, por ejemplo. Siendo, como queda dicho, la ola ciclónica una inmensa montaña o masa de agua que acompaña al vórtice en su movimiento de traslación y que es producida por la misma diferencia de presiones entre las regiones exteriores y las interiores del tifón, se sigue que la altura de las aguas debida a esta ola será permanente mientras dure la causa de ella, o sea, hasta que haya pasado la parte interior del tifón. En segundo lugar, la dirección de la ola del huracán al invadir las costas dependerá solo de la posición del vórtice con respecto a dichas costas y será por lo tanto independiente de la dirección de los vientos: más aún, en muchos casos será perpendicular a esta última. Sin embargo, en casos en que la dirección de los vientos sea favorable podrá combinarse esta causa con la ola del huracán y contribuir a que las aguas suban a mayor altura de la que hubieran alcanzado de otra suerte. Por último, una vez entendida bien la naturaleza de la ola ciclónica, salta a la vista que la altura a que llegarán las aguas del mar en las costas por efecto de la ola del huracán dependerá de la distancia mayor o menor de dichas costas al centro del tifón, del mayor o menor descenso barométrico en el vórtice, de la mayor o menor velocidad de traslación del tifón y de los obstáculos más o menos insuperables que encuentre al chocar contra las costas.

Ocurre ahora preguntar: acompaña siempre a los tifones la ola ciclónica? Supuesta la causa de esta ola, parece que no puede darse tifón sin ella en alta mar. El que la ola sea de suficiente importancia para que entre la mar en las costas dependerá de las diferentes causas arriba indicadas. Desde luego puede asegurarse que olas del huracán de extraordinarias dimensiones, como la observada en Sámar y Leyte el 12 de Octubre, 1897, causando 1299 víctimas [1] ocurre rarísimas veces. Olas de menor importancia más o menos combinada con los vientos huracanados en las cercanías del vórtice, creemos que no son tan raras, por lo que toca a Filipinas, en las costas orientales del Archipiélago.

Oigamos lo que sobre esto decía el P. Algué con motivo del baguio que acabamos de citar de Octubre 1897 [2]

Terminamos este párrafo, advirtiendo que las olas ciclónicas no son raras en las costas orientales de Sámar, Leyte, Bohol y Mindanao; empero raras veces revisten la magnitud de la ola del baguio del 12. Llaman los naturales *dolo* a una extraordinaria pleamar, y afirman que casi todos los años visita el *dolo* sus playas; ahora bien, el *dolo* no es probablemente más que la ola del baguio; o bien, si acaece en tiempo enteramente normal, puede ser efecto de fenómenos geológicos. El *dolo,* si es ciclónico, solo es formidable en las cercanías del vórtice y en la zona de destrucción, mayormente si en ella la pendiente o graduante barométrico es muy grande, como lo era la del baguio que estudiamos, y mucho más aún, si lo es la depresión absoluta en el mismo vórtice.

Supuestos estos prenotandos, vamos a dar nuestra opinión sobre lo ocurrido en el tifón que nos ocupa. Ante todo hay que tener en cuenta que cuando el vórtice llegó a la isla de Cebú había atravesado ya dos islas, la de Dinágat y la de Leyte. Si a pesar de esta circunstancia todavía se hubiese observado en Cebú una ola ciclónica capaz de

[1] Véase "El baguio de Sámar y Leyte," por el P. José Algué, Manila, 1897.
[2] Véase la obra citada, página 32.

causar tantas víctimas como en un principio se decía, necesariamente se había de concluir que el tifón debía de haber sido excepcionalmente intenso y peor que el ya citado de 1897. Afortunadamente no fué así. Todos los informes recibidos de Cebú y cuantos fueron allí a raíz de los sucesos para examinar por sí mismo los efectos del tifón, entre ellos el P. Saderra Masó del Observatorio de Manila, están contestes en asegurar que no hubo allí ola ciclónica, y que las víctimas y los daños causados a embarcaciones pequeñas en el puerto, a las bodegas y calles en el muelle, a la vía férrea, etc., etc., fueron debidos a una combinación de las lluvias torrenciales y consiguientes inundaciones, a los vientos huracanados, a la pleamar y a las olas producidas y levantadas principalmente por aquellos vientos. Esto es lo que indicaba también el observador de Cebú en el *report* que hemos copiado más arriba con estas palabras: "El agua venía de los montes en forma de torrente, lo cual combinado con la pleamar y la fuerza del huracán hizo que el agua y la mar convirtiesen en rompiente las bodegas y las calles cerca del muelle nuevo."

Algo más probable era que hubiese habido ola ciclónica de desastrosos efectos en la parte sur de Leyte atravesada por el tifón. Que el agua del mar entró en las poblaciones situadas en las costas de la región comprendida dentro del área de devastación, es cosa cierta y asegurada expresamente en muchos de los *reports* que han llegado a nuestras manos. Sin embargo, un examen detenido de todos ellos nos ha dejado persuadidos de que, cuando menos, la causa principal de estos hechos no fué la ola ciclónica propiamente dicha sino más bien las olas levantadas y lanzadas contra las costas por la violencia de los vientos huracanados. Las palabras del observador de Maasín, por ejemplo, no pueden ser más explícitas sobre este punto. En el *report* que hemos citado en su lugar correspondiente no hace el observador la menor indicación de olas peligrosas para la localidad mientras pasaba la parte anterior del tifón: los vientos eran de los cuadrantes del norte y por consiguiente no podían ser causa de olas que invadiesen los pueblos situados como Maasín, en la costa sur de la isla. Fué precisamente a la hora de la mínima cuando el observador se dió cuenta de grandes olas que venían del SW; y a la hora y minutos después de haber empezado a soplar con fuerza huracanada los vientos de esta misma dirección, el agua dentro de la población llegaba ya hasta las rodillas e iba creciendo por momentos:

En una carta de Mr. B. Cogan de la casa "Viuda e Hijos de Escaño" se niega categóricamente que hubiese habido en Leyte ola ciclónica. Copiaremos aquí la parte de dicha carta que se refiere a este punto:

> No hubo ola ciclónica, pues las olas que destruyeron Sogod norte y Consolación fueron olas producidas por el viento[1] aumentadas grandemente en magnitud al ser forzadas y acumuladas como en una bolsa (en el seno de la bahía de Sogod). Sogod sur fué barrido por una combinación de la avenida y las olas que daban contra la costa. Nosotros estimamos la mayor altura de las olas del mar en Malitbog en 15 pies (4.6 metros) y en Sogod norte y Consolación las estimamos en 30 pies (9.1 metros).

Alguna confusión pueden tal vez dar las últimas palabras de esta carta. Mas como en dos diferentes informes oficiales hallamos consignado que el agua del mar subió en Sogod a la altura de un metro, o a lo más de un metro y medio, síguese que la altura de 4.6 y 9.1 metros de que habla Mr. Cogan debe referirse sin duda a la altura a que subían las olas en el mar o al dar contra algún obstáculo en la costa, y no a la altura a que llegó el agua del mar dentro de la población.

Como confirmación de todo lo dicho añadiremos que si hubiese ocurrido en Leyte verdadera ola del huracán de importancia, como la hubo en el baguio de 1897, el número de víctimas hubiese sido en aquella isla muchísimo mayor. Que hubiese habido algo de

[1] Traducimos las palabras usadas en el texto inglés de la carta *storm waves* por *olas producidas por el viento*, pues se ve claro que ésta es la mente del escritor al querer distinguir entre *cyclonic wave* y *storm wave*.

ola ciclónica, al menos en la costa oriental de Leyte, no es nuestro intento negarlo del todo: lo que sí decimos que no hubo de ser muy notable y que la entrada del mar en los pueblos de la costa fué debido principalmente en nuestro caso a la fuerza huracanada de los vientos.

Qué es lo que pasó en la costa oriental de Dinágat, la primera isla atravesada por el vórtice, y si al menos allí acompañaba al vórtice la ola del huracán propiamente tal y capaz de causar los efectos desastrosos propios de ella, no lo hemos podido averiguar por ser aquellas costas inhabitadas.

EL TIFÓN DEL NORTE DE LUZÓN, 26 Y 27 DE OCTUBRE, 1912.

Es este el tercer tifón que atravesó las Filipinas en este mes de Octubre, y al igual que los dos anteriores pertenece al tipo de los que se forman cerca de nuestro Archipiélago, no dando tiempo para ser anunciado más que con uno o dos días de anticipación. Probablemente tuvo su origen este baguio el día 24 entre los meridianos 130° y 133° E y los paralelos 12° y 15° N. Sin embargo, no comenzó a influir en Filipinas hasta el día 25. El Observatorio de Manila anunció por vez primera este tifón la tarde de dicho día 25, si bien por la mañana se había dicho ya en la nota ordinaria del tiempo que "la presión atmosférica estaba baja en el Pacífico al E de Luzón." A las 3.15 p. m. se dió al público de Manila este aviso de tifón:

Día 25, 3.15 p. m.: Hay indicios de una depresión o tifón en el Pacífico al E de Luzón, entre 14° y 16° latitud N y a la distancia de más de 300 millas. No se puede aún precisar su actual dirección.

A los centros meteorológicos del Extremo Oriente se envió asimismo este cablegrama:

Día 25, 3.00 p. m.: Tifón al E de Luzón, distancia mayor de 300 millas, dirección desconocida.

Durante todo el día 26 se veía claramente que el tifón se movía al WNW y era por lo tanto peligroso para las provincias del norte de Luzón, según se ve por estas notas publicadas en los periódicos de la capital y distribuídas oportunamente a las casas navieras de Manila.

Día 26, 8.45 a. m.: El tifón se halla esta mañana en los alrededores de 16° latitud N y 125° ó 126° longitud E, moviéndose al WNW.

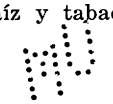
Día 26, 3.15 p. m.: El tifón parece amenazar la parte norte de Luzón. Probablemente cruzará mañana por la mañana las Provincias de Isabela o Cagayán.

Cuán acertados fuesen estos avisos de tifón, sobre todo por lo que se refiere a la parte de la isla de Luzón que fué atravesada por el vórtice, se vió algunos días más tarde cuando se recibieron las observaciones hechas durante el paso de este baguio en las estaciones de Echagüe, Tuguegarao y Aparri. Decimos *algunos días más tarde,* por haber quedado interrumpida la comunicación telegráfica con las dos últimas estaciones desde la noche del 26 hasta el último día del mes. Parte de dichas observaciones las damos reunidas en una tabla en el texto inglés. Según ellas, el vórtice hubo de pasar precisamente por el límite entre las dos Provincias de Isabela y Cagayán mencionadas en el aviso de tifón de la tarde del 26 como situadas en la trayectoria del tifón.

El observador de Tuguegarao describe el temporal en estos términos:

A las 2.45 a. m. del 27 tuvo lugar la mínima barométrica 737.31 mm. con vientos del NW, fuerza 12 (huracanados), observando después calma relativa que duró poco: el viento iba rolando poco a poco de N a S por el E.

El temporal fué intenso, aunque no ha causado grandes desperfectos. Casi todo el platanal ha ido al suelo. Las calles estaban sembradas de ramas de árboles. Los ríos Grande de Cagayán y el Pinacanauan han salido de madre inundando los terrenos bajos deteriorando todas las semillas de maíz y tabaco.



En Solana, algunas casas deterioradas y las semillas sembradas tanto en terrenos altos como en los bajos completamente perdidas por haber salido de madre los ríos Pangul y Cagayán inundando todo el terreno. Un barangay cargado de varios efectos fué a pique en el rancho de Natapian y otro en el rancho de Lingu, sin desgracia personal. Hubo inundaciones también en los barrios de Peñablanca.

Como el tifón se movía al WNW, vino a pasar naturalmente por entre Laoag y Vigan, tocando la parte septentrional de la Provincia de Ilocos Sur y la meridional de Ilocos Norte. Las observaciones hechas en aquellas dos estaciones, las cuales publicamos en otra tabla en el texto inglés, indican claramente que el temporal había ido disminuyendo en intensidad al pasar por las tres Provincias de Isabela, Cagayán y Montañosa.

El Observatorio de Manila dijo en la nota ordinaria del tiempo del día 27:

El tifón está cruzando esta mañana la parte norte de Luzón, moviéndose al WNW.

Y el día 28, 11.55 a. m., se describía la trayectoria del baguio a través de Luzón en estos términos:

El tifón pasó después de media noche del 26 al 27 cerca o a través de la parte más septentrional de la Provincia de la Isabela y de la parte más meridional de la Provincia de Cagayán, cruzó luego la Provincia Montañosa, pasó por entre Laoag y Vigan, y penetró en el Mar de China a eso de 8 a. m. del 27. El centro del temporal se halla esta mañana al W del canal de Balintang, moviéndose al W o WNW.

Los siguientes avisos de tifón fueron trasmitidos a los Observatorios de Tokio, Zikawei, Taihoku, Hongkong y Phulien:

Día 26, 8.25 a. m.: Tifón al E de Luzón, distancia menor de 300 millas, moviéndose al WNW.
Día 27, 10.00 a. m.: Tifón cruzando la parte norte de Luzón, moviéndose al WNW.
Día 27, 10.00 p. m.: Tifón al W del canal de Balintang, moviéndose al WNW.
Día 28, 10.15 a. m.: Tifón al W del canal de Balintang, moviéndose al W o WNW.

Según observaciones recibidas posteriormente parece que el tifón recurvó al N y NNE el día 28, y se deshizo el 29 al W del canal de Bashi.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[a]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Day.	Pressure (mean).	Air temperature.[b] Mean.	Maximum.	Minimum.	Underground temperature. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity (mean).	Vapor pressure (mean).	Evaporation.[b] Free exposure (total).	Shelter (total).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	*Per ct.*	*mm.*	*mm.*	*mm.*
1	758.38	26.2	30.2	23.6	28.7	28.8	29.5	29.4	29.3	29.1	86.2	21.7	2	1.8
2	59.34	26.8	31.8	22.7	28.3	29.7	29.3	29.6	29.3	29.1	81.6	21.1	3.4	2.5
3	59.60	26	30.2	23.7	29.1	29.5	29.6	29.6	29.5	29.2	87.1	21.8	1.3	1.6
4	58.51	27	30.6	24.6	28.8	29.9	29.5	29.8	29.4	29.1	86.5	22.8	1.9	1.6
5	58.29	26.3	31.9	24.5	29.4	29.9	29.7	30	29.3	29	89.6	22.6	1.7	1.2
6	58.69	26.2	28.6	24.3	29.8	29.5	29.9	29.8	29.3	29.1	89.2	22.5	.5	1.3
7	59.53	25.7	30.8	22.1	28.9	29.4	29.7	29.8	29.4	29.1	89.5	22	1.7	1.2
8	59.04	25.4	28.2	22.4	28.4	28.7	29.5	29.5	29.3	29	90	21.6	1.2	1.1
9	57.30	26.9	31.2	24.4	28.3	29.4	29.1	29.4	29.3	29	86.9	22.7	2.7	2
10	56.21	26.9	31.7	24.4	28.9	29.9	29.3	29.6	29.3	29.1	86.4	22.7	2.6	1.9
11	55.99	26.4	32	23.7	29.2	30.2	29.6	29.8	29.4	29.2	85.8	21.8	2.2	2
12	58.13	26.2	32.5	22.5	28.6	29.9	29.7	29.8	29.3	29	84.1	21.1	2.9	2.1
13	58.14	26.8	32	23.6	29.3	30.1	29.8	30	29.4	29.1	84	21.9	2.8	2.4
14	57.32	26.5	31.2	23.8	29.2	29.8	29.8	29.9	29.3	29	85.2	21.8	2.5	2.4
15	56.37	27.3	32.2	23.8	28.9	29.8	29.8	30	29.3	29	73.4	19.6	5.4	4.8
16	55.98	25.6	28.9	23.6	28.7	28.9	29.6	29.6	29.3	29	79.3	19.3	2.6	4
17	55.44	24.5	26.3	22.5	27.3	27.2	29.1	28.9	29.3	28.7	87.8	20.1	1.1	1.8
18	58.92	27.3	32.6	24.8	27.3	29	28.7	28.9	29.4	29	83	22.1	3.1	2.2
19	60.07	25.7	30.5	22.8	28.5	29	28.9	29.1	29.5	28.9	89.9	22	1.4	1.3
20	59.34	26.2	32	22.5	28.2	29.2	29.1	29.3	29.3	29	80.7	20.2	3.8	3
21	59.90	24.9	29.9	23.4	28.4	28.6	29.1	29.1	29.3	29	89.1	20.8	.9	.8
22	59.21	26.1	30.9	23.1	27.7	28.5	28.9	29	29.2	28.8	88.8	22.1	1.8	1.4
23	58.84	26.7	31	24.1	28.5	29.4	28.9	29.1	29.4	29.1	87.6	22.7	1.6	1.6
24	58.73	25.3	30.4	23.1	28.5	29.2	29.3	29.3	29.3	29.1	90.4	21.6	.8	.9
25	58.09	25.8	31	21.7	28.1	29.1	29.1	29.3	29.2	28.9	86.4	21.3	2.5	1.8
26	56.75	27.2	31.6	23	28.5	29.6	29.3	29.5	29.3	29.2	82.3	21.9	3.9	3.1
27	57.90	27.4	31.2	24.3	28.9	29.3	29.4	29.4	29.3	29.1	80.2	21.6	2.9	2.2
28	59.55	27.2	33.3	23.2	28.5	29.9	29.3	29.6	29.2	29.2	81.4	21.5	3.3	2.5
29	59.12	26.5	32.4	22.7	28.7	29.8	29.5	29.6	29.2	29	83	21.2	3.2	2.2
30	60	25.4	31	22.7	28.9	29.6	29.6	29.8	29.2	29	87.2	21	1.6	1.3
31	60.53	26.5	31	23.2	28.7	29.1	29.6	29.6	29.2	29	89	22.8	1.5	1.3
Mean	758.36	26.3	30.9	23.4	28.6	29.4	29.4	29.5	29.3	29	85.5	21.6	2.3	2
Total													70.8	61.3
Departure from normal	—0.30	—0.5	—0.2	+0.3							+1.9	—0.1		

Day.	Wind. Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Sunshine.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	*Km.*		*0–10.*			*h. m.*	*mm.*	
1	NW quad.	242	20.5	W	9.1	A.-Cu. WNW	Cu.-N. WSW	0 45	2.9	● a. d° p.
2	W quad.	144.5	16	N by E	5.8	A.-Cu. N	Cu., S.-Cu. SW	6 30	1.8	●° a.
3	SW quad.	216.5	23.5	SSW	9.8	A.-Cu. SW	Cu.-N. SW by W	0 10	.8	Ω p° a.
4	SW quad.	217	22	W by S	8.6	Ci., Ci.-Cu. S	Cu.-N. W	5 40	9	● ◠ a. ◟ d p.
5	Variable	81.5	10.5	W	7.2	Ci.-Cu. S	Cu.-N.	5 10	.9	d a. p. ⌈⊿ ◟ p.
6	Variable	91	11.5	W by N	9.8	A.-Cu.	N. NE	0 00	.6	∞ d a. ⌈ p° p.
7	SW quad.	104.5	24.5	N by W	9	Ci.-S. W	Cu.-N. E	1 55	28.4	Ω a. ⌈⊿ ● ◟ p.
8	SW quad.	124.5	19	WSW	10	Ci.-S.	S.-Cu., N.-cf. NE, W	0 00	.8	●° d° a.
9	SW quad.	240.5	26	WSW	9.1	A.-Cu. NW	Cu.-N. WbyS	2 45	3.4	● a. d p.
10	S quad.	144	25	NW by N	9.4	A.-Cu. SW	Cu.-N. SW	2 15	1.3	◠ ● a.
11	SE quad.	217	24	S	7.2	Ci.-S.	Cu. ESE	4 10	5.7	Ω a. ● p.
12	W quad.	125.5	14	ENE	7.8	Ci.	Cu. SE	7 20		⌈⊿ p.
13	NE quad.	142.5	25.5	NNE	8.2	Ci.-S.	Cu. NE	2 25	.8	⌈ ° ◟° d p.
14	N quad.	175	22	NNE	8.8	Ci.	Cu.-N. NE	1 15	3	● a. d° ◟ p.
15	NE quad.	391	37	NE by N	8.8	Ci.-S.	Cu. ENE	3 05		
16	NNE	506	40.5	N by E	10		N. E	0 00	2.8	●° a. p.
17	NE quad.	457	41	NNE	10		N., Cu.-N. SE	0 00	19.3	✓° a. ● a. p.
18	SE quad.	189	12.5	SSE	7.7	Ci. WSW	Cu.-N. E	5 50		Ω a.
19	Variable.	98	10	NW	8.8	Ci.-S.	N., N.-cf. NE	2 15	7.9	● a. p. p p.
20	NNE	179.5	23	NNE	7	A.-Cu.	Cu. NE by E	5 45	.8	d ◠ a.
21	N quad.	113	15.5	NNE	9.4	A.-Cu.	N., Cu.-N. ENE	0 55	6.6	● p.
22	SW quad.	51.5	11.5	W	9	A.-Cu. NE	N. SE	2 50	2.7	● a. d° ◟ p.
23	NW quad.	99.5	11.5	WNW	6.5		Cu. E	5 55	2.8	Ω p° a. ●° ◟ p.
24	NW quad.	89.5	12	NW	6.1	Ci. NW	Cu. EbyN	3 55	23.2	Ω p° a. ●² ⌈⊿ p.
25	SW quad.	101.5	17	W by S	6.1	Ci.	Cu. ENE	6 50	.1	Ω² a. ◠² p° p.
26	WSW	350	29	WSW	7.1	Ci.-S. ENE	Cu. NNE	4 25		Ω a.
27	SW quad.	300.5	30	S by W	9.2	Ci.-S. NW	Cu.-N. SW	0 35	2.5	● ◠ a.
28	SE quad.	136.5	18	WSW	3.3	Ci.	Cu.	9 45	25.9	⌈⊿ ●² p.
29	W,SE quads.	66	9.5	W	3.8	Ci.-S.	Cu. ENE	8 20		◟ ⌈⊿° p.
30	W quad.	79	14.5	NE	8.9	A.-Cu.	N. E	3 30	15.8	d° a. ● ⊤ p.
31	N quad.	86	12	WNW	7.8	A.-Cu.	N.-cf. E	3 20	.6	●° a. p. ⌈⊿° p.
Mean		179.3	20.3		8			3 28		
Total								107 35	170.4	
Departure from normal		—0.6			+1.3			—61 42	—18.2	

[a] All the mean values given in this table are deduced from hourly observations.
[b] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[a]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 26.2 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.68	28.3	33.1	24.6	77.7	S	1.3	1.3	Ci.	Cu.	-------	
2	59.70	27.2	33.4	23.2	83.2	S, SSE	.7	4	Ci., Ci.-S.	Cu., Fr.-Cu. SW	-------	
3	59.98	26.8	34.4	23.9	86.2	W, S	.8	4.2	Ci.	Cu. SSW	-------	
4	58.97	27.1	34.6	22.9	81.8	SW	.3	6	Ci.-S.	Cu. SSW	-------	
5	58.65	26	33	23.3	89.7	S	.3	8.5	Ci.-S.	Fr.-Cu. SSW	-------	d° ☾° p.
6	59.13	27.6	33	23	78.2	SW quad.	2	8	Ci.-S.	Cu. S quad.	-------	
7	59.98	27.2	32.3	25	75.3	SW	1.2	7.8	Ci.-S.	Cu. SW	-------	
8	59.78	28.3	33.3	25.1	73.2	SSW	.8	4.5	Ci.-S., Ci.	Cu.	-------	
9	58.96	26.7	31.8	24.6	81.7	S quad.	1	6	Ci.-S.	Cu., Fr.-N. S	6.6	●° a.
10	58.15	27.6	32.3	24.4	77.5	SW	1.3	6	Ci.-S.	Cu. S quad.	-------	☾° p.
11	57.88	27.2	32.8	24.2	80.3	SSW	1.3	5.2	Ci.-S.	Cu.	-------	d° a.
12	57.94	27.6	33.1	23.7	79.8	W, S	.5	8.3	Ci.-S.	Cu. SW, SSW	-------	
13	57.38	28.3	34	24.3	75.2	Calm	0	10	Ci.-S.	Cu.	-------	d° ☐☽° p.
14	55.17	26.6	31.2	23.7	87.3	Calm	0	10	Ci.-S.	Cu.	57.5	●² p.
15	50.62	24.9	27.1	23	90	NW quad.	4.8	10	Ci.-S.	Fr.-N., N. NNW	127.5	●² a. p.
16	53.69	25.5	27.9	23.2	82.5	S quad.	6.7	10	Ci.-S.	Fr.-N. SSW	4.6	● a.
17	58.03	27.4	32.2	24.8	77.8	S	2	9.3	Ci.-S.	Cu. SW, SSW	-------	
18	59.20	27.4	33.2	24.6	84	S	.3	6.3	Ci.-S.	Fr.-Cu., cu. S quad	1.5	
19	59.24	26	32.8	23.7	87.3	S	.8	7.7	Ci.-S.	Variable S quad.	1.8	⌒² a. d² a. p. ⊤° p.
20	58.20	26.3	32.8	22.3	85	SW, W	.7	5.5	Ci.-S., Ci.	Cu. SW	-------	
21	58.86	27.1	31.9	22.8	81	S, SW	.5	3.3	Ci.	Cu. SSW	-------	⊽² p.
22	58.32	27.7	33.7	23.3	81.2	SW quad.	.7	2.8	Ci.	Cu.	-------	
23	57.87	27.5	32.6	23.9	82.3	W, SW	.3	5	Ci.-S.	Cu. W	-------	
24	57.91	27.1	33.7	23.6	83.2	S quad.	.5	6.2	Ci.-S.	Fr.-N., Cu.-N. SW, W	-------	
25	57.78	26.8	32.3	23.6	84.7	S, NNE	.7	8.3	Ci.-S.	Cu. SSW, W	-------	
26	57.90	27.8	32.6	24.6	80.3	S	1	5.5	Ci. SE	Cu. SSW	-------	
27	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	
28	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	
29	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	
30	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	
31	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	
Mean	758	27.1	32.5	23.8	81.8	-------	1.2	6.5	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	199.5	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied,—1.86 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.70	26.8	32.5	22	81.2	WNW	0.5	1.8	Ci.	Cu.	-------	☐☽° ● a. ☾° p.
2	59.52	27.2	32.9	22.6	83.8	SW, WNW	.3	.3	Ci.	Cu.	-------	Ω a. p.
3	59.50	27.4	32.5	23.7	82.5	W quad.	1	.3	Ci.	Cu.	-------	Ω a.
4	58.84	26.6	31.9	23.7	86.3	W quad.	.3	5	Ci.-S., A.-Cu.	S.-Cu.	0.8	Ω a. ⊤ d° p.
5	58.34	27.4	32.6	23.8	82.5	SW quad.	.7	4.3	Ci.-S.	Cu., Cu.-N.	1.5	d° a. p.
6	58.50	27	30.2	24.3	83.5	SW quad.	.7	9.2	Ci.-S., A.-Cu.	Cu.-N.	8.6	d° a. d p.
7	59.43	26.4	30.4	23.5	82.3	SW quad.	1	7.5	A.-Cu.	Cu.-N., N.	2	● a. d a. p.
8	59.36	27.9	31.9	24.7	74.7	SW quad.	.8	4.8	Ci.-S.	Cu.-N. WSW	2	○ ☾° p.
9	58.76	26.9	31.9	23.8	85	SW quad.	.7	5.5	Ci.	Cu.-N. WSW	3	●° a. ☾° ● p.
10	58.02	27.2	32	23.5	81.2	SW quad.	.8	1.2	Ci.	Cu.-N., Cu.	8.9	● a.
11	57.62	26.8	31.5	23.4	85.5	SW quad.	.8	4.2	A.-Cu.	Cu.	2.3	● a.
12	57.54	28	31.1	26.1	83.3	SW quad.	1.3	9.2	Ci.-S.	Cu.-N. WSW	2.8	d° ● a.
13	56.35	27.3	28.5	26.2	82	W quad.	1.5	9.5	A.-Cu., Ci.-S.	Cu.-N. W, NW	-------	● a. ☾° p.
14	52.79	b26.3	b27.5	b23.5	b89.4	W quad.	2.5	10	-------	N. NW quad.	85.1	d a. p. ●² ☐☽° p.
15	46.26	c	-------	-------	-------	SW quad.	5	10	-------	N. WbyN, SSW	129.3	●² a. p. ↙² a. ↙ p.
16	54.92	-------	-------	-------	-------	SSW	.5	7.7	Ci.-S.	Cu.-N. SSW	13.2	● ∪ p.
17	58.11	-------	-------	-------	-------	Variable	.5	2.3	Ci.-S.	Cu. SSW	-------	☾° p.
18	59.17	-------	-------	-------	-------	NW	.7	2.5	Ci.-S., A.-Cu.	Cu.	-------	d a. p. ☾° ⊽ p.
19	59.03	-------	-------	-------	-------	Variable	.7	5.3	A.-Cu.	Cu.-N. N	-------	d a. ⊽ p.
20	58.03	-------	-------	-------	-------	W quad.	.8	.7	A.-Cu., Ci.	Cu.	-------	Ω a. ⊽ p.
21	58.50	-------	-------	-------	-------	NW quad.	1	2.8	Ci.-S.	Cu.	1	d² a. ☾° p.
22	58.19	-------	-------	-------	-------	Variable	.5	.3	Ci., Ci.-S.	Cu.	10.2	Ω a. ∪ p.
23	57.70	-------	-------	-------	-------	W quad.	.5	5	Ci.-S.	Cu.-N. W	1.3	● d a.
24	57.55	-------	-------	-------	-------	W	1	2.5	Ci.-S., A.-Cu.	Cu. WSW	85.8	Ω a. ●² ⊽ p.
25	57.52	-------	-------	-------	-------	SW quad.	1	8.3	Ci.-S.	Cu.-N. SW	1.8	●² ☐☽ a. ○ ∪ p.
26	57.89	-------	-------	-------	-------	W quad.	.8	2.3	Ci.-S.	Cu.-N. SSW	-------	
27	58.91	-------	-------	-------	-------	E	.8	.7	Ci.	Cu.	-------	Ω a.
28	59.18	-------	-------	-------	-------	Variable	.7	2	Ci.	Cu., Cu.-N.	4.3	Ω a. ● ☐☽ d p.
29	58.73	-------	-------	-------	-------	SSW	.5	4.8	A.-Cu.	Cu., Cu.-N.	21.1	☰ ●² a.
30	59.02	-------	-------	-------	-------	Variable	.5	0	Ci.	Cu.	-------	Ω a.
31	59.42	-------	-------	-------	-------	W quad.	.7	1.8	Ci., Ci.-S.	Cu.	17	●° d° ☾ p.
Mean	757.79	-------	-------	-------	-------	-------	.9	4.3	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	402	

[a] All the mean values given in these tables are deduced from six daily observations.
[b] Deduced from five observations.
[c] The thermometer-shelter was destroyed during a typhoon on October 15th.

Meteorological data for first and second class stations—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.46	28	31.6	24.5	74.5	SW quad.	0.5	3.2	Ci.	Cu. SW	-------	☊ a.
2	59.52	28.1	34	24	76.7	E	.5	4.5	Ci.	Cu. W	-------	☊ a. ⌐◪ a. p.
3	59.62	27.3	34.2	22	81.3	SSW, SE	.3	4	Ci.	Cu. SW	31.7	☊ a. p. ●² ⌐◪ p.
4	58.71	27.1	32.7	24	82	SE, E	.3	5.5	Ci.-S.	Cu. N	2.5	☊² ◟ a. ● ⌐◪ p.
5	58.19	26.2	32.4	24	86.2	NE, S	.3	6.8	Ci.	Cu. N	6.9	☊² ◟ a. ⌐◪ ● p.
6	58.66	25.8	30.9	23.7	85.2	SW, NW	.3	7.5	Ci.-S.	Cu.-N. SW quad.	7.1	☊² a. ● a. p. ⌐◪ p.
7	59.59	26.1	30	23.7	80.3	SW quad.	.7	8	A.-Cu.	N. WSW	9.4	● a. p. ⌐◪ ☊ p.
8	59.31	27.5	31.2	24.4	75.5	SW	.7	6.3	Ci.-S.	cu.,s.-cu. wsw, sw	-------	☊ a. ◟ p.
9	58.32	27.4	30.8	24.7	74.3	SW	.7	6.5	Ci.-S.	Cu. SW	-------	☊ a.
10	57.65	27.6	31.4	24.5	73.7	SW	.7	6.7	A.-Cu.	Cu. SW	21.6	☊ a. ● ⌐◪ p.
11	57.53	26.8	30.5	23.6	79.5	SW	.8	6.7	A.-Cu.	cu.-N., N.-cf. wsw	-------	● a.
12	57.76	26.7	30.3	23.9	81.3	S	.2	8	Ci.-S.	Cu. W, WNW	1.5	☊ a. ●° ⌐◪ p.
13	57.18	26.4	31.7	23.9	85.7	SE	.2	7.7	A.-Cu.	Cu.-N. NW quad.	9.9	d a. ● ⌐◪ p.
14	54.65	25.8	29.3	23.6	89.8	NE, W	.5	9.5	Ci.-S.	Cu.-N. N	92.8	● a. ●² ⌐◪ p.
15	46.72	25	27.4	23	87.5	NW quad.	4	10	----------	N. N	[a]299.77	●² a. p. ↙² p.
16	50.51	25.2	27.4	23.2	86.3	SW	5.8	9.7	----------	Cu.-N., N. SW	37.2	●² ↙² a. p ● p.
17	57.64	26.7	29.7	24.4	80.2	SW	1.3	6.5	Ci.-S.	Cu.-N. SW	2	●° a. p. ⌐◪ p.
18	59.03	27.6	32.9	23.3	81.3	SE, E	.3	5	A.-Cu. W	Cu. SSW	1	☊² a. ⌐◪ p.
19	59.02	27.2	31.5	24.7	83.2	SE, SSE	.3	6.2	Ci.-S.	Cu. NNE	.5	●° a. p. ⌐◪ p.
20	58.08	27.5	31.8	23.5	75.5	E	.2	3.7	Ci.	Cu. NNE	-------	☊² a. ◟ ⊽ p.
21	58.52	27.5	31.5	24.3	79.3	NE, S	.3	4.2	Ci.-S.	Cu. NE quad.	-------	☊² ○ a. ⊽ p.
22	58.24	26.8	31.9	23.5	83	E	.3	4	Ci., Ci.-S.	Cu. NE	-------	☊² a. ◟ p.
23	57.69	26.9	31.5	23	83	SSE	.2	4.5	Ci.	Cu. NE	29.2	☊² ◟ a. ⌐◪² ● ◡ p.
24	57.68	25.9	30	23.9	87.5	E	.7	6.3	Ci.-S.	Cu.-N. NNW	32	◟ a. p. ● ⊽ ⌐◪ p.
25	57.47	26.8	31.5	23.5	81.5	SE, SW	.3	6.8	Ci.-S.	Cu.-N. NNE	1	◟ ⌐◪ a. p. ●° ◡° p.
26	57.69	26.7	30	23.4	81.3	SSW	.5	3.5	Ci.	Cu. SW	2.3	☊² a. ◟ p.
27	58.85	28	33	24.2	77.8	SE quad.	.5	3.7	Ci.	Cu. SW	-------	●° a. ⌐◪° p.
28	59.04	28	33	24.6	76	NE quad.	.8	4.3	Ci.	Cu. N, NNE	-------	☊² a. ◟ p.
29	58.47	26.8	30.9	23.3	77.8	NE quad.	1	4	Ci.	Cu. NE	-------	☊² a. ☊ p.
30	59.13	27.3	32	23.5	76.7	S	.5	3.2	Ci.	S.-Cu. NNE	-------	☊² a.
31	59.43	28	31.9	23.6	75.2	SSE, E	.3	3.8	Ci.	Cu. N	-------	☊² a. ◟ p.
Mean	757.69	26.9	31.3	23.8	80.6	----------	.8	5.8	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	----------	----------	----------	----------	588.3?	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6.5 meters; gravity correction not applied, —1.84 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.44	28.2	30.5	26.9	79.8	SW	1.3	5.7	Ci.	Cu. SW	-------	
2	59.34	27.6	31	24	78.8	SW	.8	4	Ci.	Cu.	-------	
3	59.59	26.9	31	23.6	82.7	SW	.8	2.7	Ci.	Cu.	-------	☊ a. ⊤ p.
4	58.68	26.8	30.7	23	82.5	SW	.7	6.7	Ci.	Cu.	-------	⊤ d ⌒ ◟ p.
5	58.18	25.9	30.3	23.5	86	NW, SW	.5	8.2	Ci.-S.	Cu.	3.6	☊ a. d ● ⌐◪ ◟ p.
6	58.65	26.3	29.4	23.5	84.2	SW	1.2	8.8	Ci.-S.	Cu.-N.	5.4	● p.
7	59.67	26.3	28.8	24.9	84	SW	1.8	9.3	Ci.-S.	Cu.-N., Cu.	6.4	● a. p. d p.
8	59.20	26.4	29.2	23.9	86	SW	1.5	8.8	Ci.-S.	Cu.	56.9	d a. p. ● ◟ p.
9	58.40	25	27.3	23.3	90.7	SW	2	10	Ci.-S.	Cu.-N.	13.7	d ●² a. ● p.
10	57.46	26.2	27.6	24	84.2	SW	2.2	9	Ci.-S.	Cu.-N.	9.9	d ● a. p.
11	57.04	26.2	29.8	23.7	87.5	SW	2.3	9.8	Ci.-S.	Fr.-Cu. SW	38.9	d a. ● a. p.
12	57.76	26.5	30	23.9	86.3	SW	.8	9.7	Ci.-S.	Cu. SW	2.5	● a. p. ⊤ p.
13	57.41	26	30	24.3	87.7	SW	.5	8.8	Ci.-S.	Cu.	14	⌐◪ d ● p.
14	55.85	26	29	23.6	89.5	SW, N	1.2	10	Ci.-S.	Cu.	32	● d ◟ ⌐◪ p.
15	53.32	24.5	27	23.4	91.2	NW	1.3	10	Ci.-S.	Cu.-N.	136.3	d a. ●² a. p.
16	50.32	24.2	26	22.8	93.8	SW, NW	4.2	10	----------	N.	182.9	●² a. p. ↙ p.
17	56.47	25.9	28.4	23.4	84	SW	2.8	10	Ci.-S.	Cu.	6.9	● a. ●° p.
18	58.93	27.3	30.5	24.3	78.7	SE, SW	.7	6.2	Ci., A.-Cu.	Cu.	-------	
19	59	26.9	31.2	24.8	84.3	NE	1.3	8.5	A.-Cu. NE	Cu.	-------	d a. ●° ◟ p.
20	58.27	26.5	31	24.1	82.2	NE	1.3	9.2	Ci.-S.	Cu.	.5	●° p.
21	58.66	27	32.8	24.1	81.2	NE	1.2	8.5	Ci.-S.	Cu. NE	15.3	● ⌐◪ d ◟ p.
22	58.26	27.2	31.6	24.1	82.3	N, NE	1.3	6.7	Ci.-S.	Cu. NNE	-------	◟ p.
23	58	26.7	32.2	23.9	83	N, NE	1.2	8.7	Ci.	Cu. NE	25.4	● ⌐◪ ◟ p.
24	57.87	26	31.1	23.4	87	Variable	.3	8.3	A.-Cu. NNE	Cu.	8.9	⌐◪ ● ◟ p.
25	57.69	26.2	30.7	24.2	86	Variable	.8	8.8	Ci.-S.	Cu.	-------	⊤ d ●° ◡ p.
26	57.61	26.9	30	23.8	83.5	SW	.8	6.3	Ci.	Cu.	-------	d ◡ p.
27	58.66	27.5	30.2	25.3	82.3	SW	1	4.3	Ci.	Cu.	-------	
28	58.98	27.6	31.9	24	76.3	NE	1.2	2	Ci.	Cu.	-------	◟ p.
29	58.49	27	31.1	23.5	76.3	NE, N	1.8	4.5	Ci., Ci.-S.	Cu.	-------	
30	59.02	27	31.9	23.2	78	Variable	1.2	2	----------	Cu.	-------	
31	59.60	27.4	32.8	23.6	79.5	E	.7	3.3	Ci., Ci.-S.	Cu.	-------	☊ a. ⌐◪ d ◟ p.
Mean	757.90	26.5	30.2	23.9	83.9	----------	1.3	7.4	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	----------	----------	----------	----------	559.5	

[a] Approximate estimate made by the observer as the raingauge was blown down by a NW gale at about 7 p. m. of the 15th.

Meteorological data for first and second class stations—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.76	27.7	31.8	24.4	82.2	S	0.7	4.2	Ci.-S. SSE	Cu.		↘ p.
2	59.68	27	31.5	23.6	83.7	S	.2	4.8	Ci.-S. E	Cu. SW	0.3	⊤ a. ↘ a. p. p° p.
3	59.96	26.5	31	22.4	83.7	NW	.2	5	Ci.-S. E	Cu.		p° a. ⊤ ↘ a. p.
4	58.96	26.6	32.4	22.1	82.8	Variable	.2	6.2	Ci.-Cu. E	Cu. NW		♋ a. ↘ p.
5	58.65	25.9	31.1	22.7	86.7	NE quad.	.3	8.2	A.-Cu. NW	Cu. NNW	2.9	⊤ d p p.
6	58.94	26	30	22.5	87.5	NE	.3	9.5	Ci.-S.	Cu.-N.	12.6	↘ d ● p.
7	59.79	25.5	29.6	23.3	89.3	Variable	.3	9.8	Ci.-S.	Cu.-N. SW	12.7	p a. ◪ ● d° ↘ p.
8	59.46	26.8	30.3	23.2	85	Variable	1	8	Ci.-S.	Cu.-N. SSW	8.1	♋ p a. ⊤ ↘ p.
9	58.68	26.3	29.5	23.7	89.7	SE quad.	1.5	9.3	Ci.-S.	Cu.-N. SW, SSW	23.7	p a. d ● ⊤ ↘ p.
10	58.08	28.8	30.3	26.2	74.2	S	2.2	7.5	A.-Cu.	Cu.-N. SSW	3.6	p a. ↘ p.
11	57.88	28	31.1	24.9	78.3	SE quad.	1	8.7	Ci.-S., A.-Cu.	S.-Cu., Cu.-N. SW		
12	58.12	27.7	31.1	24.1	82	S quad.	.5	8.2	Ci.-S.	Cu.-N. W	20.4	p a. ⊤ ↘ d ● p.
13	57.30	26.3	31.1	22.8	86.5	NW quad.	.7	9.7	A.-Cu. NNE	Cu.-N. NW	.3	d a. ↘ p.
14	54.24	26.3	31.1	24.1	91	N	1.2	9.5	Ci.-S.	Cu.-N. N	122.1	d ● a. p. ●² p.
15	48.06	25.5	26.2	24.2	91.5	N quad.	2.8	10	Ci.-S.	Cu.-N. NE quad.	125	d ●² a. p. ↙ p.
16	53.35	25.9	28.5	23.3	87.8	SE	4.2	10	Ci.-S.	C.-N., N. S	7.9	d a. ↙ a. p. ☋² p.
17	58	27.5	29.9	24	80.5	SE	2	8.7	Ci.-S.	Cu.-N. SSW	1	d ☋² ↘ p.
18	59.28	27.1	32.2	22.5	81.7	SW quad.	.3	4.8	Ci.-S.	Cu.-N. ENE	6.9	♋ a. ⊤ ↘ d p.
19	59.27	26.8	31.1	23.8	87.3	SW quad.	.3	7.5	ci.-S., A.-Cu. E, NE	Cu.-N. NNE	5.7	d ⊤ ◠ a. p ⊤ ☋ p.
20	58.49	24.9	30.4	21.4	88.2	N quad.	.3	7.5	Ci.-S.	Cu.-N. NE	24.7	♋ a. p d p.
21	58.94	25.4	29.7	21.5	89.3	N	0	8	Ci.-S. ENE, E	Cu. WNW	1	p ↘ ☋ p.
22	58.53	25.9	30.3	22.1	88.2	Variable	.3	7	Ci.-S.	Cu., Cu.-N. NE	2	⊤² d ↘ ◠ ∪ ☋ p.
23	58.04	26.4	31.2	22.2	85.2	Variable	.3	3.8	Ci., A.-Cu.	Cu.-N.	.8	◪° ⊤ d ☋ ↘ p.
24	57.87	25.3	29.1	22.4	91.3	NW quad.	.3	7.5	A.-Cu. WNW	Cu.-N. NW	16.3	♋ ◪ d a. ⊤ ↘ ∪ p.
25	57.67	25.7	28.9	23.5	92.7	N quad.	.2	9.5	Ci.-S.	Cu.-N. W	61.3	⊤ ●² a. d ● a. p.
26	58.06	26.8	31	23.6	87	SE	.5	8.5	Ci.-S. NE	Cu.-N. SW		● a. ↘ p.
27	59.16	26.9	32.6	22.4	83.7	SE quad.	.3	3.7	Ci. NE	Cu.		☋ p.
28	59.52	26	31.6	21.4	83.3	N quad.	.5	5.2	Ci.	Cu. NE	13	♋ a. ⊤ ● ↘ p.
29	58.85	25.4	30.2	20.5	86	N quad.	.3	7.2	Ci.-S.	Cu.-N. ENE	.5	♋ p a. d ↘ p.
30	59.35	26.2	30.7	21.8	84.5	N, SE	.3	1.5	Ci.	Cu.		♋ a.
31	59.79	26.6	32	21.5	82.5	N	.3	5.8	Ci.-S. E	Cu.	10.7	● ↘ p.
Mean	758.09	26.4	30.6	23	85.6		.8	7.3				
Total											483.5	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 3.4 meters; gravity correction not applied, —1.82 mm.]

	mm.	*°C.*	*° C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.37	29.2	33	26	76.3	E	0.5	5.3	Ci.-S. E	Cu. WSW		
2	59.60	27.4	34.2	24.2	82.3	E, W	.2	4.2		Cu. SW	17.3	♋ a. ●. ◪ ⊤ p.
3	59.67	27.6	34.4	24	80.8	W	.7	4.5	Ci.-S.	Cu. SW		⊤ p.
4	58.86	27.1	33.2	23.5	82.7	WNW	.5	5	Ci. NE	Cu., Cu.-N. NW, N		∪² ☋² a.
5	58.34	26.4	32.8	24	87.3	W quad.	.8	6.8		Cu. NW	14.2	● a. p. ◪ ↘ p.
6	58.84	25.8	32.4	23.8	88	W	.2	7.3	Ci.-S. NE	Cu.-N. NW	22.9	●² ⊤ p.
7	59.28	25.8	29.8	23.2	86.3	W	.5	8.3	Ci.-S.	cu.-N. NW, WNW	19	● ◪ ↘ a.
8	59.11	26.9	30.5	24	82.7	Variable	.5	7.2	Ci. NE	Cu. W	9.1	● p.
9	58.34	27.7	32.5	24	79.8	S, SSW	.3	7.7	Ci., Ci.-S. NE	Cu.-N. NW		
10	57.76	27.7	33.3	24	78.5	SSE, S	.3	6	Ci.-Cu. NE, ENE	Cu. SW		
11	57.49	28.3	33.3	24.4	74.2	SW	.8	6.8	Ci.-Cu. ENE	Cu. SW		◠ a.
12	57.70	27.9	31.5	24.9	79.8	WNW	1	8.2	Ci. ENE	Cu. WNW, W	4.5	○² a. p. ● p.
13	56.74	27.3	30	23.4	80.5	WNW	2.2	8	Ci.	Cu.-N. WNW		
14	53.83	27	31	25	85.2	NW	2.7	9	Ci. ESE	Cu.-N. N	61.2	○² a. ●² a. p.
15	49.57	25.7	27.2	23.6	88.3	NNW, E	6.2	10		N. NE quad.	49.6	●² ↙ a. p.
16	54.02	26	28.5	23.8	82.2	SE quad.	3.7	9		Cu.-N. S	8.6	↙° a. ● a. p.
17	57.97	28.3	31.8	25.3	73.8	SSE, SE	1.3	7.5	Ci.-S.	Cu. S	4	● p.
18	59.37	27.6	32.7	23.8	82.2	E	.3	4.8		Cu. S	12.2	● p.
19	59.36	26.5	30	24.4	87.8	NW quad.	.7	6.3	Ci.-S. E	Cu.,Cu.-N. N	21	● a. ●° p.
20	58.42	26.4	31	23.7	88	WNW	1	7.7	Ci.-S.	Cu. NE	5.1	● p.
21	58.73	26.4	30.2	23.2	83.3	NW quad.	.8	7.3	Ci.	Cu.-N. NNE		∪ ☋ p.
22	58.49	26.4	31.5	23.6	87.3	WNW	.7	6	Ci. S	Cu.-N. NNE		◪ a. ☋² p.
23	57.88	27.3	32.5	23.5	84	NW	.7	5	Ci. S	Cu. NNE		∪² ☋° p.
24	57.73	25.3	29.8	23.7	91.5	W	1.2	8.3	Ci.-S.	N. N	22.9	● ◪ a. p.
25	57.13	27.3	31	24.2	80.8	WNW	1	7.5	Ci. S	Cu. WNW	2	● ○² a. ∪² ☋² p.
26	57.71	27.6	31.5	23	81	SE quad.	.8	6	Ci.-S. SSW	Cu. SW	22.9	∪² a. p.
27	59.28	27.8	31.5	24.8	83.3	SSE, SE	.7	5.5	Ci.-S. SW	Cu.-N. NE		● a. ↘ p.
28	59.57	26.2	31.5	23.8	84.5	NW quad.	.3	4.8	Ci.-S. SW	Cu. NE	5.1	∪² ⊤ a. ● ◪ ◠ p.
29	59.02	25.5	29	23.3	87.3	WNW	.8	8.7	Ci.-Cu. SW	Cu.-N. ENE	2	d a. ● a. p.
30	59.17	26.9	31	23.3	83.3	NW quad.	.5	4.2		Cu. E		↘ p.
31	59.55	27.6	33.5	24.3	81.2	WNW	.5	6.7	Ci. SW	Cu. NE	8.7	☰° a. ⊤ ● ↘ p.
Mean	757.96	27	31.5	24	83		1	6.8				
Total											312.3	

Meteorological data for first and second class stations—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6.7 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.30	27.6?	32.3	24.7	85.2?	WNW, NW	0.3	7.2	Ci.-S.	N. SW	-------	⊤° ⌐⊿ p.
2	59.42	27.3	32.5	24.2	85.3	S, N	.3	3.2	Ci.	Cu. S	-------	⊤° p.
3	59.61	26.2	32.5	23	84.8	N, S	.5	2.3	Ci.	Cu. SW	-------	⊤° p.
4	58.74	26.3	32.2	22.9	84.7	NW, S	.3	5.5	Ci., Ci.-S.	Cu. SW	-------	⊤° ⌒ p.
5	58.28	25.8	31.4	23.5	90	NW, SE	.3	7.5	Ci.-S.	N. SW	12.9	● ⊤° ⌒ p.
6	58.58	25.8	30.5	23.8	90.2	WNW	.2	8.2	Ci.-S.	N. SW	1	d° a. p. ⌐⊿° ⊤° p.
7	59.57	24.9	30.9	23.6	94.2	S	.5	9.7	Ci.-S.	N., Cu. S	32.8	d° a. p. ● p.
8	59.06	25.8	32.3	23.3	90.7	NNW	.2	8.8	Ci.-S.	N. SW	2	⊕ ☾ a. ⊤° ●° ⌒ p.
9	57.97	26.1	30.4	23.7	88.3	S	.7	7	Ci.-S.	Cu. S, SW	-------	d° a. p.
10	57.05	26.8	31.3	24.3	85.7	S	.7	6.8	Ci.-S.	N. S	-------	⊤° ⌒ p.
11	56.76	25.8	31	24.3	91.8	S	.7	8.2	Ci.-S.	N. SW	22.7	● ⌐⊿ ⌒ p.
12	58.02	26	31.3	23.7	91.2	NW	.2	7.8	Ci.-S.	N. NW, W	.8	⌒ p.
13	57.71	26.9	30.8	24.4	87.8	NW quad.	.7	7.7	Ci.-S.	N., Cu. W, NW	6.6	●° a. ⌐⊿ d° p.
14	55.62	27	31.5	25.1	89	NW	1	9.2	Ci.-S.	N. N	26.6	● a. p. ⌐⊿ ⌒ p.
15	53.55	25.6	28.5	23.5	92	N quad.	2.3	10	Ci.-S.	N. N	191.4	⌐⊿ ● a. p. ⌒° ●² p.
16	48.33	25	28.3	23.4	94.2	NNE	4.7	10	Ci.-S. NE quad.	N. NE quad.	83.5	⌒° ● a. ⌒ ●² p.
17	55.45	25.6	30.2	23.6	90.8	S	1.3	7.7	Ci.-S.	N. S	1.6	● a. d° a. p. ⊍ p.
18	59.03	26.9	31.9	23.8	86.7	Variable	.5	7	Ci.-S. N	N. N	5.6	
19	59.34	26.6	31.2	23.8	88.5	N	.7	8	Ci.-S.	Cu., Fr.-N. N	5.6	● ⌒ a. ⊤° ● p.
20	58.62	26.6	31	24.3	84.5	N	.7	6.2	Ci.	Cu. NE	.3	●° a. ⌒ p.
21	58.87	26.6	31	23.7	85.5	Variable	.7	7	Ci. NE	Cu. E, NE	-------	●° a. ⌒ p.
22	58.64	27	31.2	24.4	86.2	N	.5	4.3	Ci.	Cu. N, NE	-------	
23	58.19	27.3	31.4	25	84.5	NNW	.7	3.7	Ci.	Cu. N, NE	45	⌒ ⊍ p.
24	57.90	26.1	30.5	23.4	89.3	NW	.7	8.8	Ci.-S., Ci.	N. N	30.1	● a. p. ⌐⊿° ⌒ p.
25	57.64	26.8	31.4	23.7	86	NW	.8	8.5	Ci.-S. N	Fr.-Cu. NW	-------	● a. ⌒° p.
26	57.42	26.8	32.5	23	83.7	WSW, NW	.3	5.5	Ci.	Variable NW	.3	d ⊤° ⌒° p.
27	58.68	28	34.3	24.2	82.5	Variable	.5	5.5	Ci.	Cu. SSE, SW	1.5	d° ⊍° p.
28	59.30	27	31.5	24.7	85.2	NE	.3	5.5	Ci.	Cu., N. E	1.5	⊍ ●° a. p p.
29	58.82	26.8	32.5	24	84.8	ENE	.3	5.8	Ci., Ci.-S.	Cu. NE, ENE	15	p p.
30	59.11	26.2	30.2	24	89.2	N quad.	.7	6.8	Ci.-S. E	N. E, NW	2.1	● ⌒ a.
31	59.74	27.1	31.3	23.8	85.8	NW, N	.3	4.3	Ci. NW	Cu. NW	.3	d° ⌒ a. ⌒ p.
Mean	757.85	26.5	31.3	23.9	87.7	----------	.7	6.9	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	----------	----------	----------	----------	489.2	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.80 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.27	28.6	32.4	24.9	81.8	SW quad.	1.2	7.2	A.-Cu., Ci.-S.	S.-cf. SW	-------	d° a.
2	59.34	27.5	32.8	23.7	84	N	.7	4.3	Ci.	Cu.	-------	
3	59.56	27.4	33.8	23	84.5	Variable	.7	1.5	Ci.	Cu.	-------	☊ a. ⌒° p.
4	58.54	27.2	31.9	23.5	86	N	1	5.7	Ci.-S.	S.-Cu. WNW	-------	⌒ p.
5	58.05	25.9	31.4	23.5	90.3	Variable	.8	6.8	Ci.-S.	N. W, S	2.8	●° a. d° ⊤° ⌒ p.
6	58.46	26.5	32.8	22.7	86.7	Variable	1	7.3	Ci.-S.	Cu. W	18.6	☊² a. d ⊤° ⌒ p.
7	59.26	25.8	29.9	24.4	90.3	SW	1.7	9.8	Ci.-S.	N. WSW	29.6	● a. p. ⌐⊿° ⌒ p.
8	58.82	26.7	30.4	24.3	83.3	SW quad.	1.2	8.7	Ci.-S.	S.-Cu. SW	6.1	● a. ⌒ p.
9	58	27.2	30.4	23.9	81.2	SSW	1.2	7.2	A.-Cu. SW	S.-Cu. SSW	.5	●° a. ⌒ a. p. d° p.
10	57.39	28.2	32.6	24.9	77.2	SW quad.	1.3	7.8	A.-Cu.	S.-Cu. SbyW	21	⌒ p.
11	57.25	27.4	30.9	23.2	83.5	Variable	.5	8.3	Ci.-S.	S.-Cu.	3	● a. ⌒ p.
12	57.70	26.6	30.2	24.1	88.5	N	.7	8.3	Ci.-S.	S.-Cu. W	10.6	d a. ⊤ ●° ⌒ p.
13	56.98	27	32	23.4	84.5	N	.5	8.7	A.-Cu. NNE	S.-Cu. NNW	8.1	⌒ p.
14	54.30	26.4	31.6	24.8	90.7	N quad.	.7	9.8	Ci.-S.	N. N quad.	78.3	● a. p. ⌐⊿ ⌒ d p.
15	51.50	25.2	26.7	23.6	89.5	NE quad.	1.7	10	Ci.-S.	N. NE quad.	63.9	●² a. p. ⌒ p.
16	53.16	26.4	30.2	24.2	81.7	SE quad.	2.3	8.8	Ci.-S.	S.-Cu. SE	1.6	●° a. d p.
17	57.37	27.8	30.7	24.5	78.5	SE	1.7	7.2	Ci.-S.	S.-Cu. S	-------	⊍° ⌒ p.
18	59.22	27.1	32.2	23.4	82.2	Variable	.5	3.8	Ci.-S. NE	Cu.	1.8	☊ a. ⌒ p.
19	59.22	26.6	31.4	23.3	86.8	N quad.	.3	7	Ci.-S.	S.-Cu. NE	9.2	d a. p. ⊍ ⌒ p.
20	58.26	25.7	30.3	23.2	90.5	Variable	.3	7.2	Ci.-S.	S.-Cu. NNE	3.6	● a. d a. p. ⌒ ⊍ p.
21	58.52	25.8	31.2	23.5	88.5	N	.5	8.2	A.-Cu.	S.-Cu. NNE	6.1	d ●° a. ⊍ ⌒ p.
22	58.33	25.6	31.4	22.6	91.7	N quad.	.3	4.3	Ci.-S.	S.-Cu. NNE	27.2	☊ a. ●² ⊤° ⌒ p.
23	57.77	26.6	33.1	22.4	87	SW, WNW	.3	4.2	Ci.-S.	Cu. NbyW	-------	☊² a. ⊍ p.
24	57.40	25.8	30.2	22.7	90.5	NNW	.2	6.2	Ci.-S.	Cu.-N. N	16.2	☊² d a. ● ⊤ ⊍ ⌒ p.
25	56.70	26.2	31.1	22.3	85.8	W	1.2	8.2	Ci.-S.	S.-Cu. WNW	31.8	⊍ a. ● ⌒² ⊤° p.
26	57.26	27.3	30.8	24.4	83.7	SW	1	6.8	Ci.-S.	S.-Cu. SW	.5	d a. ⊍ a. p.
27	58.92	27.4	32.6	23	84.2	Variable	.5	4.5	Ci.	Cu.	-------	☊ a. ⊍ p.
28	59.53	25.6	31.5	22.5	88	N	1	6.2	Ci., Ci.-S.	Cu. NNE	17.1	☊² a. d ⊤ ● ⌒ p.
29	58.88	24.7	27.6	21.8	93	Variable	.5	8	Ci.-S.	S.-Cu. ENE	6.4	●° d p.
30	59.10	26.4	30.2	23.4	87	Variable	.5	4.3	Ci.-S.	S.-Cu. ENE, ESE	-------	
31	59.62	26	31.5	22.8	88.3	NW quad.	.7	4.3	Ci.-S.	S.-cf., N. NE, N	11.4	☊ a. ● ⊤ ⌒ p.
Mean	757.83	26.6	31.2	23.5	86.1	----------	.9	6.8	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	----------	----------	----------	----------	375.4	

Meteorological data for first and second class stations—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.97	27.8	32.5	23.8	79.5	WSW	1.3	7.5	A.-Cu.	Cu. WSW		
2	59.24	27.9	33.4	21.8	79.7	WSW	.7	2.8	A.-Cu. SW, WSW	Cu. WSW		
3	59.36	26.9	33.9	20.6	83	WSW	.5	1.8	Ci.	Cu. WSW		≡ a. p° p.
4	58.44	26.8	32	21.7	84.2	WSW	.3	4.2	Ci. E	Cu. WSW	2.3	◠ ● ↘ d° p.
5	57.91	26.8	31.1	22.4	84.5	SSW	.2	7.8	Ci.-S.	Fr.-N. W		↘° p.
6	58.28	26.4	32.6	21.1	85	Calm	0	4.3	Ci., Ci.-S.	Cu. E		↘° p.
7	58.90	25.1	31.2	22	91.2	SW	.2	8.5	Ci.-S.	N WSW	24.1	● d p.
8	58.38	25.6	29.7	22.1	88.7	WSW	1.3	9	Ci.-S.	N WSW	.3	d a. p.
9	57.70	26.6	31.9	22	85.3	SW, SSW	.5	5	Ci. E	Cu. SW	1.5	d° ↘ p.
10	57.10	26.8	31.2	23.1	86.8	SSW, S	.5	7.8	A.-Cu. SW	Cu.-N. SW		● d° a. d ↘° p.
11	57.12	27.3	32	23.4	84	SSE, SSW	.5	9	Ci.-S.	Cu.-N. SSW	16.8	d° a. ↘ ● p.
12	57.96	26.6	33.3	22.3	89	SE, SW	.3	8.8	Ci.-S.	N.	46.5	●² ⊤ p.
13	57.33	26.9	32	21.1	85.2	NE	.8	6.5	Ci. ENE, E	Cu.		●° a. ↘ p.
14	55.28	27.3	31	24.1?	83	NNE	1.5	7.2	Ci.-S.	Cu.-N. NE	26.3	d ● a. p.
15	53.91	26.7	29.2	22.9	86.5	NNE	2.8	10	Ci.-S.	Fr.-N. NE	96.1	● d a. p. ↘ p.
16	53.76	26.4	29.2	23	88.3	E	3	10	Ci.-S.	Fr.-N. E quad.	15.1	●² a. ●° p.
17	57.09	26.4	29.7	22.5	86.8	NE, SSE	.5	8.7	Ci.-S.	Fr.-N. SSE, S	.8	● a.
18	59.40	27.6	33.9	22	81.7	ESE, E	.3	2.2	Ci. N	Cu. SSW	9.1	
19	59.54	27.1	31.9	22.1	83.7	NE quad.	.8	2.3	A.-Cu. NE	Cu. ENE		● a.
20	58.52	27.2	33.3	21.3	79.5	N, NNE	.7	3.2	Ci. E	Cu. NE	1.8	●° p.
21	59.18	25.4	27	21.5	90.3	N	.5	8.3	Ci.-S.	Fr.-N. NE quad.	52.9	●² ⌈↯ a. ↘ d° ●° p.
22	58.69	26.6	31	22.5	87.5	NE	1	6.5	Ci.-S.	N., Cu. NE, ENE	1.3	● d a. d° p.
23	58.04	26.9	33.6	21.4	84.5	NNE, NE	.5	2.2	Ci. E	Cu. NNE		d° p° p.
24	57.67	25.7	32.5	21.6	88.7	NE quad.	.8	4.2	Ci., Ci.-S.	Cu., Fr.-N. NNE	3.3	d° a. ● p.
25	56.71	25.7	31.5	21.9	90.8	SW	.8	8	Ci.-S. E	Cu. NNE	4.6	● a. p. d p.
26	56.55	26.8	30.7	22.5	82	SW quad.	1.3	8.8	Ci.-S.	Fr.-N. W		●° a.
27	58.80	28.3	34.5	22.6	82.7	ENE	.7	3.2	Ci.	Cu. SSW		
28	59.70	28.4	33.9	22.6	79.3	ENE, E	.7	2.7	Ci. S	Cu. E	4.1	↘ ● p.
29	59.04	26.5	30.7	21.5	86.8	NE	.7	6	Ci.-S.	Cu. ENE, E	8.1	d° a. ● a. p.
30	59.36	27.6	32.3	23.5	86	NE	.3	7.2	Ci.-S.	Fr.-N. E	12.8	● a. p.
31	59.98	28.3	33.6	23.1	81.5	NNE	.8	3.2	Ci., Ci.-S.	Cu. NE, ENE	4.8	↘ ● p.
Mean	757.96	26.9	32.1	22.3	85		.8	6				
Total											332.6	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.74 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.74	27.8	32.7	24.1	75.2	SW quad	0.7	6.8	A.-Cu. W	S.-Cu. WSW, SW		d° a.
2	59.03	27.9	34	23.2	75.3	SW	1	3.2	Ci. WSW, W	Cu. WSW		
3	59.22	27	32.3	23.2	81	SW	.5	5.3	Ci. E	Cu., S.-Cu. W	2.5	●° a.
4	58.33	26.6	30.2	23	85.3	Variable.	.5	7	A.-Cu. WNW	S.-Cu. W	23.3	●° a. p. d° ↘ p.
5	58.18	26.3	28.6	24.3	88.7	Variable.	.7	7.2	Ci.-Cu. SW	S.-Cu. NE, N	4	●° a.
6	58.20	25.7	29	23.4	90.7	SW	.8	8.8	Ci. E	Cu.-N. W	32.2	● a. ⌈↯ a. p. ●² p.
7	59.27	26.1	28.6	23.4	86.3	NW	.7	9.7	Ci.	S.-Cu. NE	27.9	d° a. p. ● p.
8	58.64	25.1	27.5	23	88	SW	1.3	10	Ci.-S.	S.-Cu. SW, W	7.6	●° a.
9	57.03	27.1	31.2	24	81.7	SW	1.2	8.3	Ci.	Cu. WSW, W		d a. ↘ p.
10	56.13	27	31.2	24.2	82.7	SW	1	9.7	Ci.-S.	S.-Cu. S	2.8	● d a. d° p.
11	56.21	25.9	31.1	22.4	85.8	S quad.	1.2	9.5	A.-Cu. S	S.-Cu., N. S	27	d² ●° a. ⌈↯ ● ↘ p.
12	57.98	26.1	29.4	22	85.2	NW	1.3	8.2	Ci. ENE, E	S.-Cu. NNE, NE	10.7	◯² a.
13	57.87	26.8	28.8	24.2	87.2	N	3	9.8	A.-Cu. E	N., S.-Cu. NE	102.1	● d° a. ●² p.
14	56.84	26.9	29.3	23.9	85.3	N	3.3	9.2	Ci.	S.-Cu. NE	2.3	●² a. d ● ↘ p.
15	55.94	27.4	28	25.5	84.7	N quad.	4.8	9.7	Ci.-S.	N. NE	18.1	●ᶜ a. p.
16	55.18	26	27.4	23.7	91.7	NE	6.8	10	Ci.-S.	N. NE	51.9	↙°° ●² a. ↙ ● d p.
17	55.62	25.4	26.4	24.4	91.5	NE	3.2	8.3	Ci.	N. E	24.4	↙°° a. ●° a. p.
18	59.10	27	32.3	24	83	S quad.	.5	5.5	Ci.	Cu. S, SSW		ᗢ ↘ p.
19	60	27	29.9	24.1	82.7	NE	2.3	8.2	A.-Cu. E	S.-Cu. NE	10.4	
20	59.30	26.2	27.5	24.3	87.7	N quad.	4.2	9.7	Ci.	N., S.-Cu. NE	32.5	● a. ●° d° p.
21	59.49	25.8	28.5	24.3	91.2	NE quad.	3	10	Ci.-S.	S.-Cu., N. N	60.2	⌈↯ ● a. p.
22	59.37	26	28	23.6	92.5	NE quad.	2.5	9.8	A.-Cu. E	N. NE	58.7	●² a. ●° p.
23	58.77	26.1	28.3	24.1	89.8	NW, N	1.7	8	Ci.	N., S.-Cu. NE	38.1	● a. p. d ᗢ° p.
24	58.47	26.5	29.2	23.9	85	N, NE	2.7	9.2	Ci., A.-Cu. E	S.-Cu., N. NE	5.9	● a. ●° ᗢ² ᴗ p.
25	57.85	27.1	28.3	23.9	79.5	N	4.2	7.2	A.-Cu. ENE	S.-Cu. N		d° a. p. ᗢ°° ᗢ² ᴗ² p.
26	56.27	27.2	31.8	22.6	79.3	SW	1.3	8.3	Ci.-S. ENE	S. N		ᗢ° a. ◠² ᗢ² ᴗ² p.
27	58.05	27.6	32	24.4	79.2	S, SW	1	8.5	Ci.-S. NE	S.-Cu. S		ᗢ° a. p. ᴗ° p.
28	59.64	27	30.8	23.4	86.3	SW	.8	4.7	Ci. NE	Cu. S		ᗢ° a. p. ↘ p.
29	59.15	26.7	30.8	22.9	86.2	SW, N	1.7	5.5	Ci.	Cu., S.-Cu. NE		Ω² ≡ a. d² p.
30	59.50	26.8	29.9	24.8	84.7	NW, N	1.7	9.3	A.-Cu. E	S.-Cu. NE	5.3	d² ●° ↘ ᗢ° p.
31	60.40	27	30.5	23.4	85.3	N	1	6.2	Ci.	S.-Cu. NE		
Mean	758.15	26.6	29.8	23.7	85.1		2	8.1				
Total											547.9	

Meteorological data for first and second class stations—Continued.

PARACALE.

[ϕ=14° 17′ N; λ=122° 47′ E; barometer above sea, 5.3 meters; gravity correction not applied, —1.73 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.96	27.5	32.7	24.7	82.2	SW	0.7	9.7	Ci.-S.	Cu. SW	0.8	d° ●° ☊ p.
2	59.24	27.5	32.3	24	84.3	SW	.3	5.7	Ci., A.-Cu.	Cu. SW	2.3	☊ a. ● ┬° ☊² p.
3	59.27	25.7	31.8	22.9	88.7	SW	.5	5	Ci.	Cu. SW	9.4	☊² a. p. ● p.
4	58.61	26.1	30.3	22.8	90.5	SW	.3	6.2	Ci.	Cu. SW, WNW	21.9	☊² ●° a. p. ● ↘ p.
5	58.35	26	27.8	24.2	91.5	N	.8	10	Ci.-S.	S.-Cu., N. N	27.1	d° ● a. p.
6	58.50	26.6	30.6	23.6	89.3	NE	.5	8	Ci., Ci.-S.	Cu. E	28.1	● ↘ p.
7	59.26	26.2	30	23.8	89.7	NE, NW	.5	9.7	Ci.-S.	Cu. N, NW	71.4	d ● a. p.
8	58.36	25.7	30.3	22.8	88.2	SW, WSW	1	10	Ci.-S.	Cu. SW	8.9	● a. d° p.
9	57.12	27.1	31.8	24.8	85.3	SW	.7	8.8	Ci.-S.	Cu. SW	.8	●° d° ┬ ↙° p.
10	56.24	27.3	31.5	24.5	82.7	SW	.5	8.2	Ci.-S.	Cu. S quad.	1.8	↘ p.
11	56.58	26.2	30.3	24.2	89.7	E	.2	10	Ci.-S.	Cu.	11	● a. p. d p.
12	58.13	26.9	30.6	24	86.3	NE	.2	8.5	Ci.-S.	Cu. E	2.8	d a. ●° p.
13	57.95	26.7	30.3	24	88.8	NE	1.2	10	Ci.-S.	Cu. NE	7	● a. p.
14	56.82	28.3	30.6	26.3	81.3	NE	2	10	Ci.-S.	Cu. NE	.8	d° a. ●° p.
15	56.06	27.7	29	24.5	85.5	NE	2.8	10	Ci.-S.	Variable NNE	24.8	● a. p.
16	55.38	26.2	28	24.4	91.7	NE	4	10		S.-Cu., N. NE	96.3	● ↙° a. p.
17	56.65	26	27.8	24.5	88	ENE	1.2	10	Ci.-S.	S.-Cu. ESE	4.6	┬ a. ● a. p.
18	59.45	27	31.3	23.9	84.7	E	.3	5	Ci.	Cu. S	58.4	☊² a.
19	60.23	27	30	24	82.7	ENE, NE	1.2	8	Ci., Ci.-S.	Cu. NE	5	●² d a. ● p.
20	59.14	26.9	29.6	24.5	86.8	ENE, NE	1.3	7.7	Ci., Ci.-S.	Cu. NE	36.3	●° a. ● p.
21	59.67	26.4	30	24.2	90.5	NE	1	10	Ci.-S.	S.-Cu. NE	37.6	● a. p. d p.
22	59.32	26.8	28.3	24.8	90.2	ENE	1.7	9	Ci.-S.	S.-Cu., N. ENE	14.9	◠ d a. ● a. p.
23	58.76	27.3	30.3	25	86.5	NE	1	4.5	Ci.	Cu. NE	51.9	● a. p.
24	58.59	26.4	29.8	24	87.7	NNE	1.2	8.8	Ci.-S.	S.-Cu., Cu. NE	15	● a. p. ☋ p.
25	57.62	26.9	29.1	24.7	86	N quad.	1.7	10	Ci.-S.	S.-Cu. NNE	15	● a. p. ☋ p.
26	55.82	26.5	28.8	24.6	87.2	SW	1.3	10	Ci.-S.	Cu. W quad.	1.6	d° ●° a.
27	58.33	27	32.3	23.5	85.7	SW, SSW	.3	10	Ci.-S.	Cu. SSW	------	☊ ◯ a. ☊² p.
28	59.79	27.2	31.4	23.3	85.8	E, S	.7	3.8	Ci.	Cu. S	------	☊² a. p.
29	59.22	26.8	32.3	23.4	85.7	Variable	.5	5.3	Ci.	Cu. E quad.	2.3	☊² ◠ a. ●° p.
30	59.81	27	29.9	24.2	87.8	ENE	.7	8.5	Ci.-S.	Cu. E quad.	5.1	● a. d a. p.
31	60.47	26.8	29.3	24.5	89.2	NE	.5	6.2	Ci.	Cu. NE quad.	1	● d a. ●° p.
Mean	758.28	26.8	30.3	24.1	87.1		1	8.3				
Total											563.9	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.55	25.1	31.4	23	94.8	SSW	1.3	9	Ci.-S.	N.,Cu. SW	6.5	d ┬ ↙° p.
2	59.51	26.3	31	23.1	89.8	SW	1.2	6.3	A.-Cu. W	Cu.-N. SW	.3	☰ a. d a. p. ↘ p.
3	59.60	25.2	28.3	23.1	92.2	SSW	1.3	7.2	Ci.-S.	Cu.-N. SW	8.7	☊ d² ● a.
4	58.66	26.9	32.2	23	89.3	SSW	1.5	6.8	A.-Cu. W	Cu. SW quad.	2.5	d ◪ p.
5	58.40	27.4	32.4	23.4	87	SW	1.3	6	Ci.	Cu. W, N	4.1	☰² a. ↘ ┬ ● p.
6	58.71	26.8	32	24.1	90.2	NE	.8	6.8	Ci. SE	Cu. N	3	◪ ● p.
7	59.52	25.9	31.6	23.2	90.3	NE	1	8	Ci., Ci.-S. SE	Cu. N	51.6	☰² a. ●² ◪ d p.
8	59.16	25.4	28.5	23.4	94.7	WNW, SW	1	9.5	Ci.-S.	N. WNW,W	27.5	d° ● p.
9	57.40	26.1	29.8	23.3	91.8	NE, SW	.8	7	Ci.-S. NE	Cu.-N. W, SW	------	◡ a. p. ↘ p.
10	56.15	26.7	30.9	24.5	92.5	SW	1.5	7.7	Ci. NE	Cu. SW	3.8	☊ a. ● ◪ p.
11	56.06	25.6	31	23.5	94.2	SSE	1.3	9.3	Ci.-S.	N. S	38.6	d ●² ┬ ↘ p.
12	58.23	26.9	32.1	22.5	86.8	SSE	1.7	6	Ci.-S.	Cu.-N. E	------	☊ a. p. d° p.
13	58.38	26.4	30.5	23.8	87.8	N, NE	1.5	6.2	Ci.-S. ESE	Cu.-N., Cu. NE,N	------	☊ ☰ a. ◪ d ● p.
14	57.52	26.8	32.8	23	88.7	NE	1.8	4.3	Ci. SE	Cu. NE	5.4	☊ a. p. ☋ p.
15	56.76	26.9	32.8	22.7	81.8	NE	1.3	5.3	Ci. SE	Cu. NE	------	☊ a.
16	56.56	26.1	29.1	23.1	82	NE	3	7.7	A.-Cu. ESE	Cu. ENE	1.3	☊ a.
17	56.38	24.1	26.3	22.8	87.7	NE	4.3	9.7	Ci.-S.	N. ENE	31.5	↙° ◠ d a. ● a. p.
18	59.13	25.6	29.4	22.7	90.3	ENE	1.7	7.8	Ci. SW	Cu. SE	------	☋ ☊ p.
19	60.23	26.3	30.8	23.2	90	SE	1.2	5.8	A.-Cu. E	Cu. E, ESE	------	☊ a. p. ↘ p.
20	59.65	25.9	31.8	22.4	84.8	NE	1	4	A.-Cu. ENE	Cu. NE	------	☊ a. p. ⊕ ☋ p.
21	60.04	25.5	29.6	23.2	88.7	NE	1.5	6.8	A.-Cu. E	Cu. ENE, E	------	☊ a. p. d° ☋ p.
22	59.36	27	33.1	22.3	84.2	E quad.	1.3	4	Ci.	Cu. NE	------	☊² ☰ a. ↘ ◡ p.
23	59.03	26.8	31.9	23	84.5	NE quad.	1.3	6.3	A.-Cu. E	Cu. NE	------	☊² ☰° a. ┬ p.
24	58.93	26.4	32.8	22.3	85.2	N	1	4	Ci., A.-Cu. NE	Cu. NE	.5	☊² a. d ☋ p.
25	58.26	26.6	32	21.8	83	NE	1.3	4.8	Ci.	Cu. NE	------	☊² ☰° a. ◡² p.
26	56.89	25.7	31.5	22.9	91.5	W quad.	1.3	7.8	Ci. NE	N.,Cu. W	15.8	☊² ☰ a. d° ● p.
27	57.53	25.4	27.2	23.5	95.5	SSW	2.7	8.8	Ci.-S.	N. SW, SSW	4.1	d a. d° ◡ p.
28	59.67	27.1	32.8	22.4	85.3	S	1.5	3.8	Ci. NW	Cu. S	------	☊ a. ◪ ↘ p.
29	59.32	27.2	33.1	23.4	83.7	NE	1.7	3.3	Ci.	Cu. E	.8	☊² ☰° a. ↘ p.
30	60.24	25.4	29.8	22.3	91.3	NE	.7	7.7	Ci.-S.	Cu.-N. E	2.8	d a. p. ☋ p.
31	60.74	26.3	31	23	89.3	N	1.7	6.8	A.-Cu. ENE	Cu. E quad.	------	☊² ☰² a. ┬° ◪ p.
Mean	758.53	26.2	31	23	88.7		1.5	6.6				
Total											208.8	

Meteorological data for first and second class stations—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.28	25	28.3	24.1	95.8	NW, SE	0.8	9.7	A.-Cu.	N. SW	38.4	● a. p. p² ⌐◪ p.
2	59.02	26.3	32	23.8	91	SE quad.	.5	9.8	A.-Cu.	N.	27.2	d a. ● ⌐◪ p.
3	59.05	25.5	28.1	24	94.2	SE	1.2	10	----------	N. SW	23.3	● a. p. d° p.
4	58.13	27.4	32.6	23.5	92	SE, NW	.7	7.5	A.-Cu., Ci.-S.	Cu., S.-Cu.	1.3	Ω a. ⟆° ⊤ p° p.
5	58.18	27.5	32.1	23.8	90.5	NW	.7	5.3	A.-Cu., Ci.-S.	Cu.	-------	⌣ a.
6	58.46	27.7	32.2	24.6	92.8	NW	.7	7.5	A.-Cu.	S.-Cu.	-------	⊤ p.
7	58.98	27.7	33	24	83	SE	1.3	7.2	Ci.-S.	Cu. NE	-------	Ω° a. ⟆ a. p.
8	58.48	26.8	31.1	24	87	E, SW	1	9.8	Ci.-S.	N. WNW	13.8	● d p.
9	56.88	26.5	31.6	24	88.3	SE, NW	1.2	10	Ci.-S.	N. NWbyN	7.9	● ⟆ p. d a. p.
10	55.52	27.2	30.1	24.9	82.8	NW	2	7.7	Ci.-S.	Cu.-N., Cu. N quad.	-------	⟆ p.
11	55.26	26.3	32.5	23	86.7	S quad.	1.3	9.3	Ci.-S.	Cu.-N. SSE	79	●² d p.
12	57.61	26.9	33.2	22.9	85.5	W quad.	.8	9	Ci.-S.	Cu., Cu.-N.	2.8	d a. d° ⌐◪ ●° p.
13	57.99	27.2	31.8	24.5	83.7	NNW	.3	8.3	A.-Cu. S	Cu., Cu.-N.	-------	p a. ◠ ⊤° p.
14	57.08	27.6	32.1	24.4	84	W quad.	.5	3.8	A.-Cu.	Cu. NE	14	Ω° a. ⊤ ● ⌐◪ ⟆ p.
15	56.24	28	34	23.6	80.8	NW	.7	5.8	Ci.-S. SE	S.-Cu., Cu.	-------	◯° a. p. ⟆ ⌣° p.
16	56.08	28.3	34.1	24.6	80.3	S	.2	7.2	A.-Cu.	Cu.N. ENE	-------	⟆ p.
17	55.81	25.2	29.7	23.1	83.5	SE	.5	10	Ci.-S.	Cu.-N. ENE, E	7.1	d° a. p. ●° p.
18	58.50	27.2	32.2	23	81.2	E quad.	1	8.7	Ci.-S.	Cu. SE	-------	d° a.
19	59.68	27.4	33.5	23.8	82.7	NNW	.7	6.8	A.-Cu.	Cu. SE, S	-------	p° ⌐◪° ⟆ p.
20	58.94	27.6	34.2	23.3	81.7	Variable	.5	2.7	Ci.	Cu.	-------	Ω° ≡° ⟆ p.
21	59.42	28.1	34.9	23	76.2	SE	.8	4.2	Ci.	Cu. ENE	-------	Ω° a. ⌣ p.
22	58.90	27.6	34.5	23.5	77.5	SE quad.	.7	2.8	Ci.	Cu. ESE	-------	Ω° a. ⌐◪° p.
23	58.61	27.8	33.7	23.5	75.5	SE	.7	4.5	A.-Cu. ENE	Cu. ESE	.3	p° p.
24	58.52	26.8	32.5	22.8	80.2	SE	.8	4.3	A.-Cu.	Cu.	-------	Ω ≡° a.
25	57.72	27.5	32.7	23	76.5	NW	.7	3.5	Variable	Cu.	-------	⌣ ⊕° p.
26	56.32	26.2	31.2	23.5	85.7	NW	.8	6.7	Ci.-S.	Cu., Cu.-N. N	8.2	d° p.
27	56.22	26.4	29.5	24.4	88.7	S quad.	1.8	10	----------	Cu.-N. W quad.	2.2	● a. d p p.
28	59.01	26.8	32.7	23.9	86	SE	1	7.5	A.-Cu.	Cu.-N. SSE	-------	p° p.
29	58.91	27.6	34.3	23.9	81.8	Variable	.5	4.5	Ci.	Cu. SSE	6.6	● p.
30	59.60	26.7	31.9	22.8	83.8	SE quad.	.8	6.3	A.-Cu.	Cu. SSE	-------	⌐◪° p° p.
31	60.27	27.2	31.2	23.6	84.8	NW	1	6.5	A.-Cu. E	Cu. NE	-------	
Mean	757.99	27	32.2	23.7	84.7	----------	.8	7	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	232.1	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 9.7 meters; gravity correction not applied, —1.65 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.74	24.7	28.9	23.4	92.	S	2.2	10	----------	N.-cf.	52	● a. ●² p.
2	58.52	25.5	29.1	23.1	89.8	S quad.	2.2	10	----------	S.-Cu.	20.6	● a. p° a. p.
3	58.27	24.9	26.7	23.4	94.3	S	2.8	10	Ci.-S.	N.	50.3	⌐◪ a. ● p a. p.
4	57.80	26.9	31.8	23.6	86.8	S	2.8	9.7	Ci.-S.	Cu. SSE	-------	d° a. p.
5	57.94	27.5	32.1	23.6	82.8	S, NW	2	8.7	Ci.-S.	S.-Cu.	-------	Ω° a.
6	58.13	27.5	33.	23.5	84.	SSE, NW	2.2	8.3	Ci.-S.	S.-Cu.	-------	Ω° a. ⊤ p.
7	58.97	27.3	32.9	23.4	82.8	SSE, NW	2.7	10	Ci.-S.	Cu.	.3	Ω° a.
8	58.37	26.6	30.5	24.5	89.	S, N	3	10	Ci.-S.	Cu. WNW	39.4	● a. d° p p.
9	56.86	27.3	31.5	24.9	86.2	NNW	4	10	Ci.-S.	N.-cf., Cu. NNE, N	6.3	p a. p. ↙° p.
10	55.83	26.9	30.6	24.7	85.8	NNW	5	10	Ci.-S.	Cu. N	9.2	p a. p. ↙° a.
11	55.06	24.8	30.3	22.9	92.5	S quad.	4	10	Ci.-S.	N.-cf.	43.2	● a. p.
12	57.57	26.4	31.5	23.1	86.3	SE quad.	2.5	10	Ci.-S.	S.-Cu.	1	Ω a. ●° p.
13	57.99	27.2	31.8	24.	83.3	S, NW	1.7	10	Ci.-S.	S.-Cu.	-------	Ω° a ⟆ p.
14	57.03	27.9	32.7	24.6	82.3	NW quad.	2.7	9.3	Ci.-S.	S.-Cu.	-------	Ω° a.
15	56.27	27.2	32.	23.4	84.7	NW quad.	1.5	10	Ci.-S.	S.-Cu.	-------	Ω a.
16	56.13	28.2	32.9	24.1	81.5	NNE	2.8	10	Ci.-S.	S.-Cu.	.3	Ω a.
17	55.82	26.4	29.5	24.	83.5	NNE	3.2	10		N.-cf.	6.4	d ●° a. ● p.
18	58.12	26.7	30.9	23.8	83.8	SE quad.	3.8	10	Ci.-S.	S.-Cu.	2.1	↙° ● p° a. ●° p.
19	59.68	27.4	32.5	24.	82.7	S, N	2.5	10	Ci.-S.	S.-Cu.	-------	Ω° a.
20	58.84	27.	32.	23.2	82.3	S, N	2	6.5	Ci.	S.-Cu., Cu.	-------	Ω a.
21	59.33	27.1	32.1	22.6	81.2	S	1.7	6.2	Ci., Ci.-S.	S.-Cu.	.8	Ω a. ● p.
22	58.78	27.4	33.1	23.	83.	SE quad.	1.5	7.3	Ci.-S.	S.-Cu.	-------	Ω a. ⟆ p.
23	58.47	27.6	32.9	23.6	82.7	S	1.8	6.8	Ci.-S., Ci.	S.-Cu.	-------	Ω a. ⊤ p.
24	58.32	27.2	32.6	24.4	81.8	S	2	7.5	Ci.-S.	S.-Cu.	-------	Ω a.
25	57.80	27.	31.6	22.7	79.3	S, NNE	2.2	5.7	Ci., Ci.-S.	Cu.	-------	Ω a.
26	56.48	27.8	32.1	23.9	79.7	N quad.	3.5	10	Ci.-S.	Cu. N	.8	Ω° a. p ↙° p.
27	55.81	26.8	29.6	24.4	85.8	NW, SW	4.2	10	Ci.-S.	N.-cf.	27.6	↙° a. p a. p. ● p.
28	58.81	26.1	29.5	24.1	89.2	S quad.	2.7	10	A.-Cu., Ci.	N.-cf.	8.4	● a.
29	58.91	26.7	30.1	23.9	86.3	S, W	2	10	Ci.	N.-cf. WNW	-------	◠ a. p° a. p. ⊤ ⟆ p.
30	59.48	26.6	31.	22.6	85.	SE quad.	2.5	8.3	Ci.	Fr.-Cu. SE	1.8	⌣° Ω a. p° ●° p.
31	60.40	27.4	31.	24.	84.2	NNE	3.2	9.3	Variable	Fr.-Cu. NNE	3.1	● a. ●° ⟆ p.
Mean	757.86	26.8	31.3	23.7	85	----------	2.7	9.1	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	273.6	

Meteorological data for first and second class stations—Continued.

BAGUIO.[a]

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1,512.5 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction.			
									Upper.	Lower.		
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	635.56	16.6	20	15.2	96.3	W	3.5	10			52.8	●° a. ≡² a. p. ● ↙²
2	36.68	17.4	21.2	15	90.2	W, WSW	2	9.6	A.-Cu.	Fr.-N. W	3	● ≡ a. d° p.
3	36.33	16.8	18.2	15.4	95.7	SW quad.	3.3	10		Fr.-N. S, SW	58.4	●° a. ●² ↙ ≡ p.
4	36.06	18.2	23.8	15.4	93.8	W quad.	1.2	7.3	Ci.	Cu.	2.3	≡ ● p.
5	36.17	18.5	23.5	15.3	92.5	Variable	1	6.1	Ci.	Cu. ENE, SW	.8	●° a. p. ≡° ◠° p.
6	36.52	17.8	22.4	16	95.3	NE, W	1.3	8.1	Ci.	Variable	18.3	Ω² d° a. ≡° ● ⌐ p.
7	37.04	17.5	23.8	15.4	94.5	NE, SW	1	8.9	Ci.-S.	Fr.-N. NW	2.8	○°a. ●°a. p. ◠ᶜ ≡²
8	36.29	17.5	21.4	15.5	96.3	W	1.3	9.7	Ci.-S.	Variable	2.6	Ω² ≡° a. ●° ≡² p.
9	34.91	18.3	21.2	15.7	93.8	NW quad.	1.3	9.9	Ci.-S.	S., S.-cf.	13	●° ≡ a. p. ● ⌐⁄° p.
10	33.90	18.1	22.9	16.3	94	N quad.	1.7	9.9	Ci.-S.	Fr.-N. N	4	●° a. p. ≡ p.
11	33.59	17.7	22	15.3	90	SE quad.	4.3	10	A.-Cu., Ci.-S.	Fr.-N. SSE, ESE	41.4	≡ a. p. ↙ ● p.
12	35.84	17.6	23.8	15.4	91	SE quad.	1	9.6	A.-Cu.	Fr.-N.	7.6	● a. p. d² ≡° p.
13	36.11	18	21.3	15.5	93	Variable	.8	9.9	A.-Cu. E	S.-Cu., Fr.-N. E quad.	10.2	≡ ● p.
14	35.66	18.8	24.3	16.4	91.8	Variable	.7	9	A.-Cu.	Fr.-N. EbyN	.5	≡ ●° p.
15	35.05	18.8	25	16.3	84.2	Variable	1	8.3	Ci. SE	Cu.	-------	●° a. ≡° p.
16	34.98	18.2	23.3	15.2	79	E	1.8	8	Variable	S.-Cu. E quad.	-------	Ω² a.
17	33.91	16.9	19.5	15.3	82	E	4.2	9.7	A.-Cu. SW	Fr.-N. ESE	10.9	↙° ●° a. p.
18	36.35	18.1	24.4	16.2	94.8	SE quad.	2.8	9.4	A.-Cu.	Fr.-N. ESE	10.4	↙ a. ● ≡² p.
19	37.62	18.5	21.8	15.5	93.3	E	1	9.7	A.-Cu. SW	Fr.-N. ESE, SE	4.1	≡ ●° a. p. ● p.
20	37.06	18.5	24.3	15.5	80.2	E	1	5	Ci.	Cu.	-------	Ω a. ≡° p.
21	37.52	19	23.8	14.8	75.7	SE quad.	1	6	Ci.	Cu. E	-------	Ω ∞° a. ≡° d p.
22	37.06	19	25.1	15.5	83.8	SE quad.	1.7	5.9	Ci.	Cu.	47.5	Ω° a. ↙° ● p.
23	36.72	17.5	21.5	15.5	92.8	SW quad.	1.7	6.9	Ci.-S., A.-Cu.	S.-Cu., Fr.-N. WSW	27.5	● a. p. ◠° ≡² ⌐⁄ p.
24	36.46	17.9	21.8	15.5	89.2	Variable	1.2	6.9	Ci.	Fr.-N.	3.3	d ● ◠² ≡ p.
25	36.04	18.6	23.7	14.7	89	Variable	.7	5.7	Ci.	Cu.-N. WSW	-------	Ω½ a. ≡° p.
26	34.67	17.6	22.3	15.5	92.8	W quad.	1.2	8.4	Variable	S.-Cu., Fr.-N. ENE, NNW	27.6	Ω a. d ● p.
27	33.56	17.2	18.3	15.7	95	SW quad.	4.7	10		N.	77.9	●² ≡² ↙° a. ● a. p.
28	36.96	18.3	23.7	15.5	86.3	SE quad.	2.2	7.1	Ci.	Cu. WSW	.5	●° ≡° p.
29	36.74	18.2	24	15.2	91.7	SE quad.	1.3	7.7	Ci.	Cu.-N. WSW	-------	Ω² a. ≡ p.
30	37.35	18	23.9	14.9	89	SE quad.	1.5	6.9	A.-Cu. SE	Cu. NE	13.2	Ω² ≡° a. ≡ ● d p.
31	38.19	18.6	24.6	16.3	91.8	W, E	1.2	7.1	A.-Cu. SE	Cu. E	1.3	≡ ⌐ p.
Mean	636.03	18	22.6	15.5	90.3	-------	1.8	8.3	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	441.9	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 14.7 meters; gravity correction not applied, —1.61 mm.]

	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.66	26.1	30	23	88.7	S quad.	0.8	7.7	A.-Cu.	Cu. SW	81.3	d ● p.
2	58.61	25.9	29.7	22.3	89.8	SE quad.	.8	9	A.-Cu. SSE	S.-Cu.	14.9	●² a. d. p.
3	58.20	24.4	26.5	22.8	96	S quad.	1.5	9.7	A.-Cu.	N. SSW	73.6	●² a. ●° a. p. d p.
4	57.93	26.6	31	23	87.5	NW quad.	.8	6	A.-Cu. S	Cu. SW	-------	
5	57.97	27.1	31	22.4	82.7	NW, ESE	.7	1.5	Ci.	Cu.	-------	Ω² a.
6	58.22	26.8	30.8	22.8	87.7	Variable	.7	4.2	Ci.	Cu. SW	-------	Ω a. ⌐⁄ ◠ p.
7	59.15	27	31.1	23	88.2	NNW	.8	4	Ci.	Cu. NE	-------	Ω a.
8	58.43	26.4	30.2	23.3	89.8	N quad.	1.5	6.2	Ci.-S.	Cu. NE	7.1	d a. ● p.
9	56.86	26.3	29.2	23.4	90.8	NNE	2.2	7.8	Ci.-S.	Cu., Cu.-N. N quad.	6.9	d a. p.
10	55.43	25.4	28.2	23.5	94	N quad.	2	10	A.-Cu.	Cu.-N. NW quad.	19	d a. ●° p.
11	54.94	26.1	29.8	23.3	91.5	SE quad.	1.2	9.7	A.-Cu. SE	Cu.-N. NE	9.1	d a. p. d° p.
12	57.90	25.8	28.8	23	95	SW quad.	.5	10	Ci.-S.	Cu.-N. S quad.	4.4	d a. d° ●° p.
13	57.72	26.9	31.4	22.7	88.5	NW quad.	.5	7	A.-Cu. ESE	Cu. NNE	-------	d° a.
14	56.99	28	32.5	23.7	84.7	N quad.	.8	3.5	Ci.-S.	Cu. NE	-------	Ω a.
15	56.49	27.4	33.6	23.3	86.8	N quad.	1.2	1.7	Ci.	Cu. NE	-------	Ω a. p.
16	56.87	28.4	33.1	24.1	61.7	NE quad.	1.5	3.7	Ci.-S.	Cu. NE	-------	↙° p.
17	56.63	27	29.5	24.2	68	NE	2.7	9.5	A.-Cu. E	S-Cu. NE	-------	d° p.
18	58.45	27.1	31.2	23.8	83.7	N quad.	1.2	8.8	A.-Cu.	S-Cu. SE	6.1	d ⊽ p.
19	59.81	26.5	32	23	87.5	NNW	.5	3.8	A.-Cu. SE	Cu. NW	-------	
20	59.14	27.1	32.2	22.2	71.3	NE quad.	1.2	.2	Ci.	Fr.-Cu.	-------	Ω° a.
21	59.60	26.8	32.1	22.1	80.7	N quad.	1	3.3	A.-Cu. ESE	Cu.	-------	⊽ p.
22	58.84	27.6	32.7	23	83.3	N quad.	1	.8	Ci.-S.	Cu.	-------	
23	58.52	27.8	32.7	23.7	83.5	N quad.	1.2	3.3	A.-Cu.	Cu. NE	-------	Ω a.
24	58.35	27.2	32.2	22.7	84.7	NW quad.	.5	4	Ci.-S.	Cu. NE	-------	Ω a.
25	57.78	27	32	22.5	80.3	N quad.	1	2.8	Ci.-S.	Cu.	-------	Ω a. ⊽ ⊍ p.
26	56.43	26.1	31.5	22.3	85.3	N quad.	1.3	6.8	Ci. E	Cu., Cu.-N. NE	3.8	d p.
27	52.63	25.2	26.5	23.2	95.5	SSW	4.8	10		N. SSW	113.8	↙° ● a. p. ↙ ●² p.
28	58.33	27	30	23.5	88.2	S quad.	2.3	8.3	A.-Cu. SSW	Cu.-N. S	28.7	⊽ d ◠ a. ● p.
29	58.98	26.2	29.6	23.5	92.7	SE quad.	.8	7.5	A.-Cu. SE	Cu.-N. SW quad.	3.6	●² a. d° ⊕ p.
30	59.75	26.6	30.9	23.2	91.3	NW quad.	.7	7.3	A.-Cu. SSW	Cu. SE	-------	⊽ a.
31	60.50	26.7	30.2	23.2	91	NNW	.7	6.8	A.-Cu.	Cu. NNW	-------	Ω a. p.
Mean	757.84	26.7	30.7	23.1	86.1	-------	1.2	6	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	372.3	

[a] The barometric readings of this station are not reduced to sea level.

Meteorological data for first and second class stations—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.22	26.5	33.6	22	82	Variable	0.5	5		Cu.-N. NE	21.6	d ●² p.
2	58.97	25.6	32.6	23	89.3	NW	.5	9.7		Cu.-N. Variable	4.6	d° p.
3	58.46	25.1	30.5	23.1	94.2	NW	1	10		Cu.-N. S	9.4	●° a. p.
4	58.90	25	30.5	22.3	89.8	NW quad.	1.5	7.5		Cu.-N. N, NE	3.3	●° a.
5	59.20	24.9	30.7	21.9	89.7	N, NW	1	6.5		Cu.-N. NE	3.3	Ω² a. d ●° p.
6	59.19	26	33	22.6	87.3	NW	.3	8		Cu.-N. NW, N	16.3	d a. p. ●² ⌐⊼² p.
7	59.92	25.9	32.4	22.3	88.7	NW	.7	8.2		Cu.-N. N, NE		d a.
8	58.45	25.9	30.8	23.5	91.3	NW	1.3	8.8		Cu.-N. NE, N	19.3	d ●° a. ● p.
9	56.41	25.3	30.3	23.4	93.5	NNW, NE	.5	8.8		Cu.-N. N	23.5	● a. p.
10	54.42	25.5	31.5	22.4	90.2	S quad.	1.5	10	Ci.-S.	Cu.-N. SE	18.8	●° a. ●² ⌐⊼² p.
11	56.67	25	27.8	23	93.3	Calm	0	9.7		Cu.-N. NE	53.	●² a. ●° p.
12	59.17	24.8	30.6	21.4	92	NW	.3	9	Ci.	Cu.-N. N		●² a.
13	59.26	25.4	29	23.1	91.8	Calm	0	9	Ci.	Cu.-N. N, NW	11.5	d² a. ●° p.
14	58.51	25.7	31.6	23.5	91.3	NW	.5	7.7	Ci.-S., Ci.	Cu.-N. NE, N		●° d a.
15	57.99	26.6	32.8	23	88	NW, N	.8	5.7	Ci.	Cu., Cu.-N. E		Ω° a.
16	58.92	26	31.4	22.4	86.3	NE, N	1.5	6.8	Ci.	Cu.-N. E, N		Ω° a.
17	59.32?	24.8	30.4	21.4	91	NE	1.2	9	Ci.	Cu.-N. N	16.3	Ω a. d² p.
18	60.11	24.6	28	22.6	95.7	NW	.2	10		Cu.-N. NE	12.4	● a. p. d p.
19	61.39	25.7	31.5	23	85.7	N quad.	1.2	8.7	Ci.-S.	Cu.-N. N	1	● a. p p.
20	61.41	25.3	30.4	22	82.3	N quad.	2	5.8		Cu. NE		d° p.
21	61.43	24.9	31.5	22.6	89.7	ESE, N	.3	9.2	Ci.	Cu.-N. E	2	d° a. d² ●° p.
22	60.57	25.9	31.3	23.3	87.7	NE, N	1.5	6.5		Cu.-N., Cu. N, NE		
23	59.83	24.6	30.3	22.7	96.2	SE	.2	7.7	Ci.-S.	N. N	8.9	● a. ⊂⊃² p.
24	59.68	25.6	33	22.1	83.8	NW	.7	6.7		Cu. N		≡² Ω² a.
25	59.20	25.6	30.6	22.8	86.8	NW, N	1.3	7.5	Ci. E	Cu., Cu.-N. NE, N		Ω² a.
26	55.67	24.3	27.5	22.9	93[a]	NW	3.3	8.7	Ci.-S.	Cu.-N. N, E	133.7	d° a. ●² ↙° p.
27	52.19	24.5	26.7	23.3		S quad.	5.5	9.5	Ci.-S.	N. S	25.7	●² ↙° a. ● d² p.
28	58.71	26.4	32.5	22.4	85	S	.7	4.2	Ci.	Cu. SE		≤ p.
29	58.95	26.6	34.5	21.8	85.2	Calm	0	3.2	Ci.	Cu. S		Ω a.
30	60.11	26.5	34.2	21.9	85.2	S, SE	.3	2.2		Cu. S		Ω² a.
31	60.61	26.8	34.3	22.5	86.3	N	.7	3.3	Ci.-S.	Cu.		Ω² ≡ a.
Mean	758.74	25.5	31.2	22.6	89.1		1	7.5				
Total											384.6	

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.06	25.9	29.4	22.6	82.7	N	1.5	6.2	A.-Cu. W, SW	S.-Cu.		
2	59.11	25.4	30.5	23.7	86.2	N, NE	.8	9.7	A.-Cu. W	S.-Cu. NE, W	16	● p.
3	58.60	24.6	27	23.1	92	S	1.2	10		S.-Cu., N. SE	20	● a. p.
4	59.12	25.7	29.4	23.1	85.3	NE quad.	1.8	9.5	A.-Cu. NE	S.-Cu. NE	7.3	●° a. ● p.
5	59.42	26.4	31	24	80.8	ENE	2	7.7	Ci.	Cu.-N. ENE, NE	15.5	● a. p.
6	59.10	26.7	31.1	24.1	84.5	E	1.5	5.3	A.-Cu. S	Cu.-N., S.-Cu. SE		● a. ≤ p.
7	60.06	26.4	30.8	23.1	85.3	E quad.	1.5	4.7	Ci.	Cu.-N. NE	30	Ω a. ⌒ a. p. ● p.
8	58.56	25.9	29.6	24.2	91.2	NE quad.	1.8	9.5		Cu.-N., N. NE	18.8	● a. p.
9	55.88	26.1	28.1	24	89.8	NW	3.3	9.3	Ci. NE, E	Cu.-N. N quad.	26.4	● a. p.
10	53.35	25.1	27.5	23.6	93.7	S	2.5	10		S.-Cu., N. SW	23.2	● a. ≤ ●° p.
11	56.68	25.3	28.2	23.3	89.3	SE	1.2	10	A.-Cu. SE	S.-Cu. SE	7.2	≤ ⌐⊼ a. ●° a. p.
12	59.14	24.5	28.4	22.6	91	SW, E	.8	9.7	A.-Cu. SW	S.-Cu., Cu.-N. E, SE	12.5	●° p.
13	59.43	26	30	23.2	87.7	E	1.2	8.5	A.-Cu., Ci.-S. E	S.-Cu. E	6.6	●° a. ⌒ ≤ p.
14	58.72	26.4	30.1	24.1	88	E	2	5.2		Cu.-N. E	2	● a. p.
15	58.31	26.7	30	24.6	86.2	E	1.5	3		Cu.-N. E	.3	●° a.
16	59.58	26.6	30	23.4	75.2	E, ENE	2.5	7	Ci.	Cu.-N. E	.8	●° p.
17	59.70	26.2	29.8	23.1	75.5	ENE	3.5	9.5	A.-Cu. E	S.-Cu. E		
18	60.43	25.3	27.6	23.7	88.5	ENE	2.5	10		S.-Cu. E	.3	●° p.
19	61.61	26.4	30.8	24.5	80.2	ENE	2	6.3		S.-Cu. E	.5	●° p.
20	61.73	26.6	31	24.2	74	NE	1.8	2.5		Cu.-N. NE	3.8	∞ a. p.
21	61.45	26.3	30.5	23.5	86.8	ENE	1.7	8.5	A.-Cu. SE	Cu.-N., S.-Cu. ENE	3.8	● a. ∞ p.
22	61.10	26.8	30.8	25	79.2	NE quad.	2.5	4	A.-Cu. SE	Cu.-N. ENE, NE		∞ a. p.
23	59.94	26.2	30	23.6	84.5	ENE	1.3	4.2	A.-Cu. E	Cu.-N., S.-Cu. ENE	2	● p.
24	59.85	26.1	31	22.1	87	NE, ENE	1	.8	A.-Cu. SE	Cu.-N.		Ω a.
25	59.50	26.4	30.8	23.6	84.8	NE	1.5	5	A.-Cu. E	Cu.-N. NE	9.2	Ω a. ● a. p.
26	57.13	25.5	27.5	23.7	89.5	NE	3.2	10	Ci.-S.	Cu.-N., N. NE	63.6	● a. p.
27	53.82	24.5	27	23.2	91.2	E quad.	3.3	10		N. E	20.1	↙° ● a. ●° a. p.
28	58.31	26.6	32.1	23	84.3	S, E	1.8	3.7	A.-Cu. S	S.-Cu.		⌐⊼ ≤ p.
29	59.02	26.1	31.1	23.1	84.5	S	1.2	2.2	Ci.	Cu.-N., S.-Cu.		
30	59.89	26.4	31.4	22.6	83	Varriable	1.2	0				Ω a. ≤ p.
31	60.72	26.6	31	22.6	84	E, NE	.7	.8		S.-Cu.		Ω a.
Mean	758.91	26	29.8	23.5	85.4		1.8	6.5				
Total											289.9	

[a] Deduced from five observations.

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.1	23.1	91	57	10	2	------	☌☌² p.
2	32.3	22.9	92	86	4	10	31.2	●² a. ⌐◪ a. p. ● p.
3	32.4	22.3	94	70	4	8	8.6	● ⌐◪ a. p.
4	32.5	21.8	93	71	4	10	------	
5	33.1	21.8	91	95	3	10	17.1	●° a. p. ⌐◪ p.
6	33.4	31.9	92	73	10	7	43.8	●° a. ●² p.
7	30.2	22.3	91	79	10	10	.4	d a.
8	31.6	21.8	94	64	8	7	------	
9	33.3	22.4	92	74	4	10	------	
10	33.3	22.9	90	70	7	10	8.5	☾° a. ● p.
11	31.8	23	94	77	10	7	------	☾° a.
12	32.2	22.9	94	94	2	10	.2	d a.
13	32.6	22.1	94	70	3	5	6.1	☾ d° a.
14	29.6	22.4	84	93	10	10	38.7	●² a.
15	28.9	22.1	83	94	10	10	20.1	d² a. ● ◟ p.
16	31.8	22.2	82	77	10	10	13.7	☾° ●² ⌐◪ a.
17	31.8	22.7	89	84	10	10	.3	d a. ☋° p.
18	34.2	22.4	85	58	2	3	------	☌☌° ☋° p.
19	34	22.3	93	70	8	5	------	☊° a. ☌☌² p.
20	32	23.7	85	75	10	10	3.7	●° ☾ a. p.
21	30.6	23.1	93	80	6	4	5.6	⌒ ●° a. ⊕ p.
22	33.1	22.3	95	90	5	8	32.5	☊ ☾° a. ●² ⌒ p.
23	33.3	21.3	94	64	1	3	------	☊° a. ☌☌² p.
24	33	21.9	94	70	1	4	12.1	☊° a. ☌☌ ● p.
25	33	22.7	96	69	3	6	.4	☾² a. ☌☌° p p.
26	31.8	22.7	92	78	2	7	10.4	● a. ☋° p.
27	32.1	21.4	92	77	7	8	.9	☊ ☾° p° a. d ☋° p.
28	32.3	20.9	96	73	1	4	------	☊ a.
29	33.5	22.6	94	73	4	5	------	☊ a. ☌☌ ◟ p.
30	33.6	22.4	95	70	3	7	.4	☊° d² a. ⌒ p.
31	33.4	22.5	95	66	3	4	------	☊ a. ☌☌² ⊤° ◟° p.
Mean	32.4	22.3	91.6	75.5	5.6	7.2	------	
Total	------	------	------	------	------	------	254.7	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.1	21.6	91	75	9	10	0.5	p ⊤ a. d° p.
2	32.1	22.6	97	77	1	10	24.4	☊ a. ● ⊤ p.
3	31.9	23.1	97	70	2	3	7.1	☊ ● a. ◟ a. p.
4	31	22.1	96	70	4	4	------	☊ a.
5	32.4	22.1	89	83	1	10	23.9	☊ a. ⊤ p p.
6	30.6	22.4	93	75	10	9	2	⊤ a. ● a. p.
7	28.1	22.9	96	84	9	10	1.5	●° a.
8	30.8	21.9	96	68	1	4	------	☊ a.
9	32.6	21.7	95	63	1	10	10.7	☊ a. ● p.
10	32.1	21.4	100	73	2	10	.5	
11	30.6	23.1	92	71	9	4	------	p a. ◟ p.
12	32.8	22.6	96	77	1	9	.8	⊤ ☊ a. ◟ p.
13	32.1	21.5	94	78	10	10	102.1	p ⊤ a. p. ●² p.
14	29.6	22.6	100	88	10	10	28.2	☇° ⊤ a. ● a. p.
15	28.8	23.3	96	100	10	10	47.7	☇° ●² a. p.
16	29.8	23.1	100	85	10	10	34.5	☇° ●² a. ⊤ p.
17	31.9	23.6	96	96	10	10	11.7	● a. p.
18	33.2	21.6	96	69	10	3	------	⊤ ◟ p.
19	33.6	21.5	96	75	10	8	------	☊ a. ⊤ p.
20	32.6	22.8	100	86	9	10	10.2	☊ a. ● p.
21	32.1	21.8	97	78	3	4	------	☊ a.
22	31.2	21.6	96	94	1	10	46.7	☊ ⌐◪ a. ● a. p.
23	32.2	22.1	96	73	1	5	------	☊ a.
24	31.6	21.7	97	76	3	6	.5	☊ a.
25	30.1	22.1	96	88	10	10	2.3	⊤ ● a. d p.
26	32.7	22.1	96	78	9	6	------	☊ a. d° p.
27	33.1	21.6	96	83	1	10	------	☊ a. d° p.
28	32.3	22.6	96	71	2	7	------	☊² a.
29	32.2	22.8	96	78	3	4	------	☊ a. ⊤ ◟ p.
30	32.8	22.5	97	72	3	10	13.7	☊ ● a. p p.
31	32.1	22.1	97	76	10	7	------	☊ a. ⊤ p.
Mean	31.7	22.3	96	78.4	5.6	7.8	------	
Total	------	------	------	------	------	------	369	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.3	24.3	91	79	10	3	------	
2	30.6	24.2	86	73	4	9	------	d° p.
3	31.2	23.8	92	71	3	10	------	d° p. ⌐◪ p.
4	30.4	23.2	85	76	10	10	------	
5	29.4	23.5	85	76	4	8	------	⌐◪ p.
6	29	22.6	91	73	10	10	41.9	● a. p.
7	27	22.8	83	80	10	10	2.8	● a. d p.
8	30.1	22.8	91	68	5	9	------	
9	29.8	23.5	91	71	7	10	1	●° p.
10	29.5	22.5	92	74	8	10	------	
11	30.1	23.5	90	73	10	5	7.9	● a.
12	30.7	23.4	90	74	3	9	------	
13	30.1	23.8	88	65	7	9	34	● p.
14	27.9	23.2	95	97	10	10	29.9	● a. p. ☇° p.
15	27.6	21.1	96	100	10	10	64.2	●² ☇² a. p. ⊤ a. ◟ p.
16	28.1	24	98	85	10	10	16	●² ☇² a.
17	------	------	89	------	10	------	------	
18	------	------	------	------	------	------	------	
19	------	------	------	------	------	------	------	
20	------	------	------	------	------	------	------	
21	------	------	------	------	------	------	------	
22	------	------	------	75	------	9	------	⌐◪ p.
23	29.7	22.8	84	79	3	7	------	
24	29.7	23	82	76	2	7	------	
25	29.5	23.3	91	80	9	9	------	d° p° a. ⊤ p.
26	30.5	23	90	71	3	6	------	
27	30.6	22.9	90	77	3	9	------	
28	31.4	22.8	91	77	2	6	------	⌐◪ p.
29	29.6	22.5	89	74	3	7	------	⌐◪ p.
30	31.7	23	89	75	7	5	------	
31	30.2	22.9	87	78	1	9	------	⌐◪ p.
Mean	29.8	23.1	89.4	76.8	6.3	8.3	------	
Total	------	------	------	------	------	------	197.7[a]	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	21.5	96	72	6	7	------	⊤ p.
2	31.6	22.1	96	68	6	5	16.8	⊤ a. ● p.
3	31.2	21.8	96	66	5	6	11.9	● ⌐◪ p.
4	29.5	21.8	98	78	9	6	6.6	● p.
5	30	20.9	96	72	8	7	7.1	● p.
6	30.7	21	96	72	6	5	17	● ⊤ p.
7	31.5	21.5	96	73	5	7	------	
8	31.5	21.1	96	68	6	7	------	
9	31.3	21.5	96	63	6	5	------	
10	31.1	21.8	97	78	6	8	------	⊤ p.
11	31.7	21.4	96	63	6	5	------	⊤ p.
12	32.7	21.8	97	65	5	6	------	
13	31.3	23	96	73	5	8	5.8	⊤ ●° p.
14	28.7	22.3	96	82	8	9	14.2	● p.
15	26.2	22.8	96	85	10	10	4.1	● a.
16	29.9	23.4	80	73	8	7	------	
17	30.7	22.3	91	71	5	6	6.4	● p.
18	31.2	23.1	96	69	5	5	28.4	●² ⌐◪ p.
19	31.2	21.9	96	71	5	6	10.7	● p.
20	32	21.5	96	54	5	5	58.8	●² p.
21	30.6	22	97	70	7	6	------	
22	32.2	22.5	96	57	5	5	------	
23	31.2	22.9	96	70	6	5	10.2	● p.
24	31.2	23.2	96	71	9	6	5.1	⊤ ◟ ●° p.
25	32.2	22.9	96	71	5	6	6.4	● p.
26	30.7	22.4	96	74	5	6	------	
27	32.7	23.2	96	73	8	5	------	
28	33	22.7	96	63	5	6	------	⊤ p.
29	32.7	21.3	96	69	5	6	6.4	● p.
30	32.7	22.3	96	72	9	5	12.7	● p.
31	31.3	22	96	73	7	6	------	⊤ ◟ d p.
Mean	31.2	22.1	95.5	70.3	6.3	6.2	------	
Total	------	------	------	------	------	------	228.6	

[a] 26 days of observation only.

Meteorological data for third and fourth class stations—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	23	91	61	9	4	------	☊ a. ☇ p.
2	34	23	91	61	6	5	------	☊ a. ● ☈ p.
3	33.1	22.7	96	61	5	6	11.4	
4	------	22.6	94	62	10	7	------	
5	32.1	22.2	95	58	8	6	53.3	☊ a. ●² p.
6	30	22	96	80	9	9	10.7	d ⌒² p.
7	28.7	22.4	97	83	10	10	2.1	● a. d ☈ p.
8	32	21.8	95	66	8	5	------	
9	31	21.8	95	67	7	9	------	☊ a.
10	32.1	22.7	95	74	6	9	------	☊ a.
11	32	21.8	95	65	8	6	.8	
12	31.9	22.3	92	66	3	8	------	d a. ☈ p.
13	32.1	23.1	93	63	5	9	22.9	┬ ● p.
14	28	23.2	88	80	10	10	38.6	● a. p.
15	27.9	24	92	88	10	10	67.3	● a. p.
16	26.3	22.2	96	92	10	10	38.6	●² a. ● ⊕ ∪ p.
17	32.4	22.8	96	63	9	6	------	
18	32.5	22.9	91	63	3	5	24.1	☊² a.
19	32.4	21.9	95	68	9	6	------	● a. ⌒ p.
20	33.1	23.1	95	63	5	7	------	☊ a.
21	33.2	23	91	61	6	6	------	☊² a.
22	33.5	22.2	94	59	7	3	------	☊ a.
23	32.5	22.9	94	65	7	6	10.2	≡° a. ∪° p.
24	32.5	24.3	95	61	8	4	6.6	● a. p.
25	30.5	24.3	96	70	8	6	1.8	p a.
26	32.3	22.7	96	66	5	6	------	●° a. ☇ p.
27	34.1	22.9	95	59	5	7	------	☊² a.
28	33.9	23.5	92	69	6	8	------	☈ p.
29	34.4	23	94	60	7	6	------	☊ a. ☈ p.
30	33.4	23.5	92	58	5	6	2.5	☊ a. ● p.
31	32.5	23.8	95	65	7	7	24.1	≡° a. ● p.
Mean	31.9	22.8	93.9	67	7.1	6.8	------	
Total	------	------	------	------	------	------	315	

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.1	22.5	91	69	7	6	------	☇ p.
2	32.1	23	89	72	8	8	1	┬ ●° ☇ p.
3	32.2	22	93	68	3	5	.3	☇ d° p.
4	31.7	22.5	90	72	8	9	------	☇° p.
5	31	23.2	90	71	8	10	------	☈ a. ☇° p.
6	31.4	22	90	72	9	8	52.3	●² ☈² p.
7	30.7	22.5	96	91	10	10	20.8	●² ┬ p.
8	30.8	22.3	94	65	7	6	------	☇ ┬ p.
9	30.7	22	87	73	5	7	34.3	● ☈ p.
10	31.5	21.4	91	69	3	8	6.6	●° ┬ ☇° p.
11	31.6	21.6	92	66	6	7	6.1	●° ☈ p.
12	31	21.6	93	84	6	8	4.8	● ☈² p.
13	28.8	23	92	77	10	10	4.6	● ☈ p.
14	28	23.4	96	82	10	10	50.8	d° a. ●² ☈ p.
15	26	23.3	96	80	10	10	6.1	●° a. p.
16	30	23.7	75	71	10	8	5.4	d a. ●° p.
17	34.5	22.6	92	64	7	7	1.3	☇² p.
18	31.2	23.8	92	71	3	6	.3	●° a. ☇° d p.
19	30.8	23.2	90	69	5	6	------	☇ a. ┬° p.
20	31	22.9	90	67	4	4	------	☇° p.
21	30.7	22.5	90	65	3	4	------	☊ a. ☇° ∪ p.
22	31.6	23	94	66	3	5	------	☊ a. ☇ ∪° p.
23	31.4	22.5	90	71	5	4	5.8	☊ a. ☇° ☈ ☈² ●° p.
24	31.5	23	91	68	8	5	------	☇° p.
25	31.9	22.5	90	74	7	8	4.1	☈ ☈° ☊ a. ●° ┬ ☇ p.
26	31.4	21.5	91	68	5	7	------	
27	31.7	22.5	89	71	7	5	------	☊° a. ┬° p.
28	31.2	21.9	88	68	6	7	------	☊° a. ☇ p.
29	31.2	23	88	71	4	5	.3	☇ ●° p.
30	31.5	22	90	64	3	5	.3	┬ ☇ d p.
31	31.8	23.3	92	65	5	6	10.4	☇ p.
Mean	31.1	22.6	90.7	71.1	6.3	6.9	------	
Total	------	------	------	------	------	------	215.6	

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.9	24	97	70	9	3	------	☊ a. ┬ ☇ p.
2	34.2	23.4	93	72	5	5	------	☊ a. ┬ p.
3	34.5	22.6	95	65	4	3	------	☊² a.
4	33.7	23.8	97	72	5	8	------	☊² ☇ a.
5	33.1	24.1	96	71	7	7	------	☊ d° ┬ a. ☇ p.
6	32.5	22.7	96	72	8	5	------	☊ a. ┬ ☇ p.
7	29.5	23.7	96	84	10	10	7.6	●° a. ✓ ✓° a. p.
8	32.4	22.7	96	76	7	8	------	☊ a. ○ ● ☈ p.
9	32	21.9	97	76	5	8	15.2	☊ a. ● p.
10	29.5	22.9	97	84	6	10	8.9	☊ ⌒ a. ┬ ● p.
11	32.3	24.2	95	73	7	8	16	☊ a. ┬ ●° p.
12	32.6	22.6	97	73	6	7	3.8	☊ a. ☇ p.
13	31.2	23.8	97	81	8	7	14.7	☊ p ✓° a. ● p.
14	30.2	24.3	96	82	9	10	54.4	d a. ●² ✓° ☇ p.
15	28.6	25.3	96	98	10	10	88.6	●² ✓ a. p.
16	28.2	24.1	97	92	10	10	57.2	●² ✓² a. p.
17	32.5	22.9	94	67	5	8	------	d° p° p.
18	33.2	23.2	96	72	7	5	40.1	☊ ⌒ a. ┬ p.
19	33.2	23.1	96	72	9	8	8.9	☈ ●² a.
20	33	23.9	97	67	7	3	------	● a.
21	32.7	22.2	96	80	5	7	------	☊ a. ┬ ☇ p.
22	34	22.8	94	67	4	4	------	☊ a. ☇ ∪ p.
23	33.7	23.1	97	75	5	5	------	☊ a. ☇ ∪ p.
24	34.1	23.7	96	75	7	6	6.9	d° a. p ☇ p.
25	30	23.9	97	89	10	7	1.3	● a.
26	33.9	22.8	97	76	3	5	7.1	☊ a. ┬ ● ⊕ p.
27	34.4	22.7	97	66	4	5	------	≡ ☊ a.
28	33.6	24.3	97	67	8	5	7.6	☊ a. ☈ p.
29	33.2	24.5	96	70	6	5	------	p ☇ a.
30	34.2	23.7	97	81	5	6	------	☊ ┬ a.
31	------	24.2	97	76	7	8	2.5	☊ a. ☇ p.
Mean	32.5	23.5	96.2	75.5	6.7	6.6	------	
Total	------	------	------	------	------	------	340.8	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	22.8	94	52	3	5	------	☊ a. ┬° p.
2	32	23.4	92	70	3	3	------	☊ a. ☈ ☇ p.
3	31.1	23.2	94	68	1	7	0.3	☊ a. ☈ ●° ☇ ⌒ p.
4	30.7	23.9	92	74	10	10	------	☊ a. ☈ d° p.
5	29.3	23.6	95	76	4	10	------	☊ a. ⊕ ┬ ☇ p.
6	30.3	23.9	93	71	9	8	39.9	☊ ⊕ a. ☈² ●² p.
7	29.5	23.2	92	70	10	5	------	☊ a. ☈ d° p.
8	30.1	23.4	94	58	7	7	------	☊ a. ☇ p.
9	29.3	23.4	94	71	7	7	------	☊ a. ⊕ ☈ p.
10	30.2	23.2	92	70	9	7	------	☊ a. ┬ d° p.
11	30.5	23.5	92	65	8	5	------	☊ a. ☈ d° p.
12	30.1	24.1	96	66	10	7	2.5	☊ a. ☇ p.
13	27.6	25.2	93	81	9	10	13	☈ ● a. p.
14	27.1	24.6	78	88	10	10	81	☈ a. ●² ✓° ☇ a. p.
15	25.1	23.1	94	93	10	10	22.6	● a. p. ✓ a
16	27.6	23.1	91	79	9	10	.3	⌒ ✓ ●° a. d° p.
17	31.4	23.5	93	63	5	7	1	☊ a. ☈² ●° p.
18	30.6	24.3	95	66	6	5	------	☊ a. ┬ p.
19	29.5	23.1	95	87	5	8	1.3	☊ a. ●° p.
20	29	23.6	96	69	10	4	------	≡° ☊ a. ⊕ ☇ p.
21	29.5	23.3	91	69	5	2	------	☊ ⊕ a. ┬ ☇ p.
22	30.1	23.8	95	67	6	3	------	☊ a. ┬ ☇ p.
23	29.8	23.7	96	75	7	6	11.9	☊ a. ⊕ ☇ ● p.
24	29.5	24.1	93	68	9	4	------	d a. ┬ ☇ p.
25	28.5	24.4	92	74	8	9	3.3	┬ ☊ a. ☈ ●° p.
26	30.2	23.5	95	64	6	5	------	☊ a. ┬ ☇ p.
27	30.6	22.9	96	68	7	6	------	☊ a. ☈² ⌒ d° p.
28	28.6	23.3	96	71	4	9	2.5	☊ a. ● ┬ ☇ p.
29	28.2	22.7	96	70	3	7	------	☊ a. ⊕ ☇ p.
30	30.1	22.9	93	65	3	2	------	☊ a. ☇ p.
31	30.2	22.1	95	69	8	4	45.5	☊ ≡° a. ☈ p.
Mean	29.6	23.5	93.3	70.9	6.8	6.5	------	
Total	------	------	------	------	------	------	225.1	

Meteorological data for third and fourth class stations—Continued.

DUMAGUETE.

[ϕ=9° 18′ N; λ=123° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.6	24	86	62	8	3	------	☊ a.
2	32.5	23.2	81	71	10	8	------	☾° ☾ a. ☿ ○ ☾p.
3	31.5	23.6?	87	69	2	7	------	☊ a.
4	31.7	23.6	79	74	10	10	2.9	☊° a. ● ☿ ☾ p.
5	30	23.5	88	82	10	10	------	☾ a. ☾ a. p.
6	33	22.7	90	65	8	7	1	☊° a.
7	31	23.2	91	87	10	10	2.3	●° a. p.
8	30.8	22.8	90	74	10	8	------	☾° ☊ a. ☾ p.
9	30	22.8	91	78	9	9	.5	☊ a. d p.
10	30.2	22.5	90	73	10	10	2.8	☊ d° a.
11	31.8	22.8	86	73	10	9	------	☐☿° ●° a. d° ☾° p.
12	31.5	23.2	90	69	10	10	------	d° ☊ a.
13	33.2	23.8	87	82	10	10	------	d° a. p. ☾ p.
14	31.2	23.5	91	70	10	10	20.4	☊ a.
15	28	23.8	82	81	10	10	19.8	☾° a. ● a. p.
16	28.6	23	85	61	10	10	18	● a. p.
17	31.2	23	87	69	9	9	1	☽ d a. ●° ☾° p.
18	30.6	22.9	88	78	10	7	14.5	☾° a. p. ● p.
19	30.5	23.7	90	66	10	9	2	☐☿° d a. p. ⊕² ●° p.
20	30	24	92	68	8	5	11.9	☊ a. ● ☾ p.
21	30.4	23.5	91	70	8	8	------	●° a. ○° ☾ p.
22	31	23.4	91	71	10	7	------	☊ a. ○° ☾ p.
23	32	23.2	89	67	8	9	------	☊² a. ☾ a. p. ☿ p.
24	31.5	22.9	88	75	8	7	------	☊ a. ☾ a. p. d ☿ p.
25	30.2	23.2	91	85	8	10	3.8	☊ ☾ ●° a. p. ☽² p.
26	32	22.5	88	69	5	7	------	☊² a. ☾° p.
27	31	22.7	88	74	7	7	------	☊² a. ∞ ☾° p.
28	30.6	23.7	87	73	7	7	------	☾ ☾° ☊ a. ○° p.
29	30.5	23.5	92	71	6	10	------	☊ a. ○ a. p. ☾° p.
30	31.3	23	84	66	3	5	10.9	☾° ☊ a.
31	30.9	23.2	91	72	3	10	------	☐☿ ● a. ○° ☾ p.
Mean	31	23.2	88.1	72.4	8.3	8.3	------	
Total	------	------	------	------	------	------	111.8	

YAP (WESTERN CAROLINES).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.2	24.4	92	78	10	10	0.6	● a. d p.
2	31.7	23.5	88	95	10	10	11.2	● a. d² p.
3	30.8	23.1	93	95	10	10	40.9	● a. ●² p.
4	32	21.9	92	70	10	10	30.5	● a. p.
5	30.8	23.9	96	79	10	10	1.8	● a.
6	31.7	23.7	83	74	10	9	17.8	● a. d p.
7	32.5	24.2	92	74	3	10	11.2	p° a.
8	31.7	23.1	87	89	10	10	15.4	● a. p.
9	31.5	23.7	91	71	10	8	1.3	●° p.
10	32.2	24.5	87	69	9	10	.5	●° a.
11	32.1	23.9	83	71	2	5	------	☊ a.
12	32.7	23.6	85	68	5	4	------	☊ a.
13	32.5	25.1	88	71	5	7	------	☊ a.
14	32.2	24.9	80	74	10	10	12.4	● p.
15	30.2	22	85	80	10	10	.5	
16	32.1	24.1	86	72	10	9	------	●° a.
17	32.9	24.9	88	77	6	7	------	☊ a.
18	32.2	23.4	88	82	7	10	8.7	☊ ● a. ☿ a. p. ☿ p.
19	31.8	24.6	88	76	10	10	75.7	⊕° ● p.
20	30.4	22.5	96	74	10	8	14	●² a. ● ☐☿° ☽ p.
21	32.6	23.1	93	71	3	6	------	
22	32.3	22.9	92	71	5	6	------	☊ a. ☽ p.
23	30.7	24.4	85	88	9	10	7.4	● a. ☿° p.
24	31.7	23.9	89	71	8	8	------	☊ a.
25	32.6	24.6	84	71	9	8	1.5	☊ a. ☽° d² p.
26	28.9	24.4	88	92	10	10	23.3	●° a. p. ☋ p.
27	32.2	24.4	83	69	7	4	.5	●° p.
28	31.7	24.9	87	70	5	5	------	☊ a.
29	32.8	24.6	90	76	1	10	28.9	●° a.
30	30	23.4	97	82	10	10	9.4	● a. p.
31	29.2	24.1	89	82	10	10	6.6	☊ a. ● p.
Mean	31.6	23.9	88.5	76.8	7.9	8.5	------	
Total	------	------	------	------	------	------	320.1	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.5	23.4	86	86	10	6	------	
2	30.7	23.4	92	83	10	10	------	☿² a. p. d° p.
3	30.7	23	92	85	10	8	------	☿² p.
4	30.8	23.6	93	86	10	10	------	d° ☿² a.
5	29.1	23.6	91	92	10	10	------	☿² d° ☾ p.
6	29.6	23.6	95	85	10	10	18	d° a. ☿° ● p.
7	29	23	91	75	10	10	44	● a. p. ☿² ☾² p.
8	29.6	22.9	92	82	10	10	------	d a.
9	29.6	22.7	92	86	10	10	------	
10	29.5	23	88	87	10	10	------	☾ p.
11	29.5	22.9	89	84	10	8	------	d° ☿° ☐☿² p.
12	30	23	89	85	10	10	------	d° ☾ p.
13	29.5	23.1	90	82	10	10	31.2	d° ☿ a. p. ☾² ● p.
14	28.4	23.2	88	90	10	10	108.1	●² a. p. ☽² ☐☿ p.
15	------	------	90	------	10	10	394.7?	●² ☄ a. p. ☄² ☾² p.
16	27.4	22.4	92	85	10	10	101.3	●² ☄ a. p. ☄° ☾² p.
17	30	22.3	93	82	10	10	------	d a. ☾² p.
18	31	22.4	92	80	10	10	------	
19	31.1	23.5	88	81	10	10	26.2	d a. ● ☐☿ p.
20	31	22.8	92	70	10	8	------	
21	31	23	85	66	10	10	------	☐☿ p.
22	31	22.8	92	79	10	10	15.2	☽° a. ● ☿ ☋ p.
23	30.8	23	92	85	10	10	21.1	☿ ☋ ☾ p.
24	29.6	22.6	93	79	10	10	26.2	● ☐☿² a. ☽² ☋ ☾² p.
25	28.6	24.2	89	85	10	10	9.4	● a. ☋² ☽² ☾ p.
26	30.6	24.3	91	79	10	8	------	
27	30	24.3	87	81	10	10	------	
28	30.3	23.6	82	83	10	10	------	d° ☿² p.
29	30.5	23.6	85	77	10	10	------	d° ☿ a. ☾ ☾ p.
30	30.8	23.3	91	80	10	10	------	
31	32	22.8	92	70	10	10	------	☐☿² p.
Mean	30.1	23.2	90.1	81.7	10	9.6	------	
Total	------	------	------	------	------	------	795.4?	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	23.9	96	78	10	4	------	☾ p.
2	32.3	23	91	68	3	4	------	☊² a. ☾ p.
3	32.7	22.5	91	70	2	5	------	☊² a. d² p.
4	32.3	22.7	88	71	9	6	------	☊² a. ☾ p.
5	31.8	22.6	90	81	10	10	3	☊2 a. ● ☾ ☿ p.
6	30.8	23	96	84	10	10	80.6	●² p.
7	28.3	22.6	97	93	10	10	54.4	●² a. p.
8	30.3	23.4	97	79	10	7	44.7	● ☾ p.
9	27.2	23.4	98	95	10	10	34.8	● a. p. ○ p.
10	28.7	23.5	97	87	10	10	14.2	● a. p. ☾ p.
11	29.9	25	95	87	10	10	15	● a. p. ☾ p.
12	31.3	24.5	96	81	10	10	1.1	●° a.
13	30.8	24	96	77	10	9	6.6	●° a. p. ☾ p.
14	30.8	23.8	98	85	10	10	107.2	●² ☐☿ p.
15	27.7	23.6	96	91	10	10	112.2	●² a. p. ☿ ☾ ☄ p.
16	25.7	23	96	97	10	10	244.9	☄² ●² a. p.
17	29.2	23.5	96	87	10	10	2.3	● a. ☾ p.
18	31.2	24	94	77	1	1	------	d a.
19	31.8	22.6	93	76	9	8	.8	☊² a. ☿ ☾ ● p.
20	31.8	22.8	96	68	7	7	------	☰° a.
21	32.1	22.2	92	72	9	10	------	☊² a. ☿ d ☾ p.
22	32.3	23	93	73	4	5	------	☊² a.
23	32.9	23.4	94	69	8	7	------	☊² a.
24	32.3	23	91	70	3	7	------	☊² a. ☾ a. p. ☿ ☽ p.
25	32.3	23.3	93	69	9	10	------	☊² ☿ a.
26	30.4	22.5	94	70	2	9	------	☊² a. ☿ p.
27	30.8	22.5	92	75	7	10	------	☊² a. ⊕ p.
28	32.8	22.6	92	75	1	6	------	☊² a. ☿ d p.
29	32.9	21.5	89	66	0	6	------	☊² a.
30	33.4	22.5	90	66	2	6	------	☊° a.
31	32.9	22.5	91	66	0	2	------	☊² a. ☾
Mean	31	23.1	93.8	77.5	7	7.7	------	
Total	------	------	------	------	------	------	721.8	

Meteorological data for third and fourth class stations—Continued.

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.7	24.1	97	76	8	8	------	.
2	32	23.4	96	67	8	8	------	☾ p.
3	31.8	24.5	98	76	8	6	2	●° ☾ p.
4	32.2	24.9	93	75	10	9	1.8	
5	29.2	24.5	96	81	10	10	33.9	● a. p. ☾ p.
6	30.4	23.9	97	79	10	9	73.3	● a. ●² p.
7	29	23.4	97	86	10	10	20.5	● a. p.
8	30.6	23.7	97	79	10	9	11.7	● p.
9	27.4	23.9	97	87	10	10	8.4	●° a. p.
10	30	24.3	95	81	10	9	10.6	d a. ● p.
11	30.9	24.9	95	91	10	10	4.6	●° a. p.
12	31	23.9	97	71	10	9	9.1	●° a. p.
13	28.9	23.9	97	95	10	10	15.5	☿ a. ● a. p.
14	30.1	24.5	98	79	10	10	------	● a.
15	29.5	26.6	84	81	10	10	12.2	☐☾ ● p.
16	26.7	25.3?	91	92	10	10	80.5	☄ ●² a. p.
17	27.8	23.8	93	87	10	10	4.3	☄ ● a. ☿ ●° p.
18	30.9	25.1	94	78	9	8	------	
19	30.5	23.6	95	77	7	7	------	☊ ☰° a. ☾ p.
20	29.8	25.8	82	72	8	8	------	☊ a.
21	30.1	25.8	91	73	8	5	------	☊ ☋ p.
22	30.4	25	97	77	7	6	------	☊ ☰° a. ☾ p.
23	30.5	25.6	93	74	8	7	------	☊ a. ○ ☿ p.
24	30.4?	24.7	96	70	7	6	15.9	☰° ●° ☿ a. ☐☾ ● p.
25	30.1?	23.8	87	71	9	5	------	☊ a. ☾ d° p.
26	31.9	23.4	97	72	9	7	------	☊ ☰° a. ☋ p.
27	32.2	23.5	95	69	8	9	------	☊ ☰° a.
28	30.9	23.3	97	74	8	7	------	☊² ☰ a. ☾ p.
29	31	25.5	91	72	8	4	------	☊ a. ☾ p.
30	31.3	25	92	72	8	7	------	d a.
31	30.9	23.4	95	71	8	9	------	☊ ☰ a. ☾ p.
Mean	30.3	24.4	94.2	77.6	8.9	8.1	------	
Total	------	------	------	------	------	------	304.3	

GUIUAN.

[ϕ=11° 03′ N; λ=125° 43′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.6	25.9	79	77	4	2	------	d° ☐☾ a. ☿ p.
2	32.5	26.4	89	80	2	2	1	d ☾² p.
3	32.2	23.4	96	73	2	2	------	☊² ☿ a. ◠° ☐☾ p.
4	31.8	22.7	98	88	6	9	------	☊² a. d° p.
5	31.1	22	99	78	8	5	6.8	●° p.
6	30	24	89	80	9	10	3.1	●° a. p ☾p.
7	30.3	23.7	86	74	9	9	------	☐☾ d° p.
8	30.6	24.9	78	82	8	3	------	○² a. p. ☾² p.
9	29.9	23.9	98	78	8	6	------	☾² p.
10	30.3	27.3	82	76	7	6	------	☾² p.
11	30.9	27.2	80	79	6	8	------	☾² p.
12	30.4	23.6	98	77	9	9	4.8	○² ●° ☐☾² p.
13	29.8	23.9	93	75	10	10	7.6	○° a. ●° ☾ p.
14	------	23.5	96	83	10	10	59.6	☄° ● a. ☄ ☾ ●² p.
15	------	------	------	------	10	10	63	●² ☄² a. p.
16	30.4	23.7	88	92	9	10	2.3	● ☄° a. p.
17	31.1	25	86	76	6	1	------	☾° p.
18	31.8	26.5	91	76	7	3	8.9	d p.
19	30.3	22.6	97	72	4	4	10.1	●° a. p. ☾° p.
20	30.8	23.4	94	69	8	3	------	d a. p. ◠ p.
21	30.3	23.2	97	79	9	8	------	☊² a. ☾² p.
22	31.4	23.6	98	81	8	8	5.6	☊² a. ☾ ☋² p.
23	30.3	22.8	98	80	3	7	------	● a. ☋² ☾² p.
24	30.7	21.7	98	87	2	9	2.8	d° a. ☿ ● ☾ p.
25	29.8	25	88	80	9	6	------	○° ☋² p.
26	31.8	26.8	84	74	2	2	------	
27	32.3	26.3	89	70	6	3	------	
28	30.9	22.1	97	82	5	9	10.4	☊² a. ☾² ● p.
29	27.2	22.5	98	83	9	9	15.2	● a. p. ☄° p.
30	30.4	22.8	98	77	8	1	------	●° a. ☄° p.
31	31.6	21.8	97	69	7	4	33.8	☊² a. ● ☐☾² p.
Mean	30.8	24.1	92	78.2	6.8	6.1	------	
Total	------	------	------	------	------	------	235	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.6	24	96	70	7	6	------	●° ☾ a.
2	32	23.4	95	66	2	6	0.3	☿ a. p. ●° ◠ ☾ p.
3	32.6	22.5	95	65	3	6	2.8	☊ a. ☿ ● ☾ p.
4	31.8	22.9	93	81	5	9	5.9	● p.
5	30.6	22.4	97	72	6	7	31.8	● a. p. ☿ ☾ p.
6	31	22.7	95	77	7	8	15	☊ a. ● a. p. ☾ p.
7	30.5	23.5	94	69	9	8	------	d° a. p.
8	31.6	23.8	92	68	7	7	1.3	d° a. ● ☾ p.
9	32.7	22.7	97	58	6	6	------	☾ p.
10	33.1	23.2	97	60	5	5	------	☊ a. ○ ☾ p.
11	32	23.4	97	65	4	6	.3	☊ a. ●° ☾ p.
12	32	23.4	97	65	7	8	.8	☿ ●° p.
13	32.1	23.9	93	62	8	8	2.3	d a. ☾ p.
14	29.4	24.8	90	86	10	10	41.9	● a. p. ☿ p.
15	27.6	23	81	97	10	10	82.8	●² ☄² a. p.
16	29.2	23.4	93	78	10	9	14	☄° ◠ a ● a. p.
17	31.2	22.6	94	80	4	6	------	☊ a.
18	31.4	23	97	72	3	6	34.8	☊ a.
19	30.2	23.2	97	80	4	7	1.5	●² ☐☾² ◠° a. ● p.
20	30.3	22.6	97	75	7	6	------	
21	32.1	23.5	97	80	8	6	.3	● ☿ p.
22	31.9	22.8	98	69	4	6	------	☊ a. ☾ ☋° p.
23	31.6	22.4	97	82	3	7	------	☊ a. ☿ ☋ ☾ p.
24	31.5	21.7	96	91	3	9	9.7	☊ ● a. p. ☋° ☾ p.
25	32.8	22.5	96	74	5	6	------	☾ ☋ p.
26	33.1	22.5	82	63	4	7	------	☊ a. ☿ ☋° p.
27	31.6	22.6	85	74	4	5	------	☊ ⊕ a.
28	31.6	22.7	93	71	5	7	5.6	☊ a. ● a. p.
29	26.5	22.3	97	90	8	10	11.1	● a.
30	31.2	21.6	91	59	6	4	------	☊ a. p.
31	30.5	21.5	97	71	2	6	39.9	☊ a. ● p.
Mean	31.2	22.9	94.1	73.2	5.7	7	------	
Total	------	------	------	------	------	------	302.1	

MASBATE.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.5	26.5	93	63	9	7	------	
2	31.4	25.6	97	91	7	9	5.8	
3	31	24.2	97	78	6	6	------	
4	30.5	24.5	97	85	6	7	11.7	
5	30	25.5	97	92	9	8	7.7	
6	------	24.6	96	----	9	----	10.9	
7	28.6	24.2	96	91	7	10	15.8	
8	29.2	24.5	92	78	10	9	6.4	
9	29.8	24.6	94	78	8	9	.3	
10	29.2	25.5	92	79	10	8	3.1	
11	31	26	90	78	8	7	5.6	
12	29.6	23.5	99	92	9	9	16.8	
13	29.4	24.2	92	82	8	9	.3	
14	29.2	27	86	92	8	10	12.2	
15	27.5	26	88	94	10	10	92.5	
16	28	24	84	98	10	10	44.7	
17	28.8	24	95	75	10	10	1.3	
18	30.8	24	97	74	8	8	3.8	
19	30.5	24.4	96	81	9	8	------	
20	30.6	25.2	88	69	10	6	------	
21	28.6	25	95	79	9	9	1	
22	30	24.6	96	83	7	8	------	
23	30.5	25.5	96	78	7	4	1.5	
24	29.6	25.5	94	81	6	8	3.3	
25	29.6	25.5	92	80	8	10	.8	
26	30	25	88	75	6	9	12.7	
27	32.4	25	96	81	8	7	------	
28	31.4	25.2	94	71	4	4	------	
29	30.5	24.5	97	78	4	10	.3	
30	30.2	24.6	95	77	4	6	------	
31	32.6	24.2	99	63	6	9	------	
Mean	30.1	24.9	93.8	80.5	7.7	8.1	------	
Total	------	------	------	------	------	------	258.5	

Meteorological data for third and fourth class stations—Continued.

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.7	------	81	------	9	------	------	
2	34.5	24.7	90	60	3	1	------	☊° a
3	33.5	23.5	96	76	1	9	------	☊ a. ⊤° d° p.
4	33.7	24.7	85	70	5	9	------	☾ p.
5	33.6	22.9	96	68	3	8	17.5	☊ a. ● p.
6	33.7	23.9	94	80	10	9	9.4	d a. ● p.
7	33.1	23.4	99	89	9	9	51.8	d a. ●² p.
8	33.6	22.8	95	66	10	6	------	● a.
9	31.7	24.9	89	74	9	10	9.7	d° a. p.
10	31.6	23.9	93	76	10	9	7.2	● a. d° p.
11	33.4	24.3	92	82	10	9	1.3	● a. d p.
12	31.7	23.4	97	85	10	9	6.9	d a. p.
13	32.2	23.1	98	77	8	9	------	● a. d p.
14	33.7	24.2	90	71	9	10	2	d p.
15	29.3	24.9	90	80	10	10	33.8	d° a. ● p.
16	29.5	24.1	95	90	10	10	230.4	●² ↙° a. p. ↙ p.
17	28.2	22.8	97	93	10	10	59.2	●² a. p.
18	34.1	22.5	96	66	2	2	.3	
19	32.6	22.5	98	74	9	4	2.3	●° a.
20	33	21.6	93	69	2	4	11.7	☊ a. ●° p.
21	33	24	97	73	8	10	3	● a.
22	33.2	23.6	96	76	9	7	3.6	● a. d p.
23	33	23.8	97	67	4	2	.5	●° a.
24	33.3	25	89	75	8	8	1.5	d° a. ●° p.
25	32.8	24.5	87	75	9	9	.5	d a. ●° p.
26	33.3	22	97	69	8	8	------	d a.
27	34.1	25.4	85	63	9	5	------	
28	34.7	22.8	97	65	3	4	------	☊ a.
29	34.4	23.8	90	64	6	7	33.8	☊ a. d° a. p.
30	31.3	22.4	97	78	4	9	3.5	● a.
31	33.5	22.8	98	69	3	1	------	●° a.
Mean	32.8	23.6	93.4	74	7.1	7.2	------	
Total	------	------	------	------	------	------	489.9	

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.4	24.8	91	70	9	8	------	
2	33.7	23.8	94	81	6	8	------	⊤ p.
3	33.6	22.3	95	71	1	3	------	≡° a. ⊤ p.
4	33.1	23.2	96	65	3	4	2.3	≡° a. ⊤ ☾ p.
5	34.1	23.6	96	77	10	4	------	●° a. ☾ p.
6	32.7	22.6	96	74	9	9	------	≡° a.
7	31.9	23.4	92	84	10	10	1.5	⊤ ☾ ●° p.
8	32.7	23.6	92	90	10	10	3.3	● p.
9	32.5	23.7	92	83	5	10	7.2	● ⌐☾° p.
10	34.1	24.1	92	66	4	7	5.1	☾ p.
11	34.4	23.9	90	97	10	10	20.5	⊤° a. ● a. p. ⌐☾² p.
12	32.7	23.5	97	76	10	10	14.2	☊ a. ○ ⊤° ● p.
13	32.1	22.9	94	78	10	9	9.2	●° a. p. ○° ☾ p.
14	31.2	25.6	93	91	10	10	22.1	● a. p. ⌐☾² p.
15	31.6	22.6	86	92	10	10	23.8	● a. p. ↙ ☾ p.
16	28.1	23.5	88	90	8	10	16.5	● a. p.
17	29.1	24.2	87	79	5	8	7.4	● p.
18	32.4	23.4	95	68	2	7	22.9	≡° a. ☾ ● p.
19	33.6	23.5	96	72	4	7	15.5	● a. ☾ p.
20	31.1	23.6	96	74	9	6	13.7	● a. ☾° p.
21	31.9	23.2	97	78	10	8	7.6	● ⊤ a. ○² ⌐☾° p.
22	31.3	23.2	97	73	9	6	4.1	● a. ☾° p.
23	31.8	23.3	97	78	6	5	14.2	☊ ● a. d p.
24	30.1	23.4	98	79	7	7	10.1	● a. p.
25	30.8	24.2	92	92	10	10	4.3	● a. p. ☾° ∪ p.
26	32.2	23.6	96	66	4	7	------	
27	32.5	24.1	95	66	3	4	------	
28	33.5	22.1	96	70	3	5	------	≡° a. ☾ p.
29	32.1	22.1	97	83	3	10	3.3	≡ a. ●° a. p.
30	31.6	23	98	71	3	5	------	≡ d° a. ☾° p.
31	32.4	22.2	98	74	1	9	26.9	≡ a. p a. p. ☾° p.
Mean	32.2	23.4	94.2	77.7	6.6	7.6	------	
Total	------	------	------	------	------	------	255.7	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.4	25.3	88	71	8	8	------	
2	34.1	24.3	95	61	8	8	------	⊤ p.
3	34.3	21.6	95	56	4	5	------	
4	34	23.2	94	63	6	8	------	
5	30.1	24.6	94	80	8	7	2	d p.
6	30.5	22.9	96	77	7	8	3.8	d a. ●° p.
7	31.2	23.8	97	74	8	8	12.2	●° a. p.
8	30.5	23.7	96	78	8	7	------	●° a.
9	31.8	24	93	75	6	7	------	
10	32.2	24.2	93	69	10	8	29	● p.
11	30.3	24.1	96	77	10	10	1.5	● a.
12	32.1	24.3	96	72	8	7	21.6	d a. ⊤ ● p.
13	31.5	23.5	97	72	7	7	5.1	● p.
14	28.7	24.7	96	88	8	8	31.5	● a. p. ◠ p.
15	29.1	24.4	93	91	8	10	62.7	●² a. p. ↙ ⊤ p.
16	28.6	23.8	97	85	8	10	7.6	● ↙ a. p.
17	27.8	25.8	87	84	8	10	------	d° a.
18	31.1	24.2	95	76	8	7	20.3	● p.
19	31	23.5	96	79	6	7	1.5	● a. d p.
20	30.8	22.7	92	72	8	6	2	d a. p.
21	27.4	23	96	86	6	8	47	● a. p.
22	29.6	23.9	98	89	8	6	8.9	● a. p.
23	29.3	23.5	96	92	8	7	43.9	● a. p.
24	30.5	22.8	96	71	8	7	2	● a. d p.
25	31	23.8	96	76	8	8	8.6	d a. ● p.
26	32.9	24.3	91	65	7	6	------	∪ p.
27	32.2	24.5	93	74	6	7	------	
28	31	24.7	94	76	6	7	------	d p.
29	30	23.2	97	86	7	8	8.2	● p.
30	30.5	24.5	97	74	6	7	------	d a.
31	31.2	24.5	95	76	5	6	------	
Mean	30.9	23.9	94.7	76.3	7.3	7.5	------	
Total	------	------	------	------	------	------	319.4	

SUMAY, GUAM (LADRONE ISLANDS).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	26	87	71	10	6	------	
2	30.6	25	89	71	10	10	------	
3	31	24	92	69	10	10	------	
4	31.4	24.2	92	65	9	8	6.4	
5	32	25	92	69	10	7	------	
6	31	24.8	87	71	10	8	6.4	
7	31	25.8	89	69	10	6	2.5	
8	30.6	25	86	70	7	4	------	
9	29	26.6	84	85	8	10	12.7	
10	28.6	24.2	93	77	10	10	15.3	
11	30	25	84	71	10	10	7.6	
12	30	24.8	92[a]	75	10[a]	10	3.8	
13	27.8	23.8	92	84	10	10	50.8	
14	26.4	22	92	92	10	10	85.1	
15	27	21	87	84	10	10	35.5	
16	29	24	92	77	10	10	6.4	
17	30.4	24.8	89	69	6	10	1.3	
18	29.2	24.8	92	83	10	8	12.7	
19	29.6	25.4	92	73	6	8	8.9	
20	30	24	89	71	10	6	------	
21	30.4	23.8	87	71	6	6	------	
22	29.4	25.6	84	76	7	10	------	
23	30	24	85	71	10	6	12.7	
24	29.6	24	92	76	10	10	22.9	
25	29	22.8	92	77	10	10	22.9	
26	26.4	23.8	92	92	10	10	12.7	
27	30	23.4	87	69	10	10	------	
28	29.4	23.2	89	74	10	10	40.6	
29	27.4	23	97	90	10	10	12.8	
30	29.4	24	92	68	10	5	------	
31	30	25.4	89	71	10	6	------	
Mean	29.6	24.3	89.6	75.2	9.3	8.5	------	
Total	------	------	------	------	------	------	380	

[a] Observation at 7 a. m.

Meteorological data for third and fourth class stations—Continued.

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.6	23.4	98	74	10	10	0.3	d p.
2	32	23	96	75	10	7	------	
3	31.8	22.4	97	78	4	10	------	d° a.
4	31.5	22.8	99	96	10	10	17.1	●² ↘ p.
5	32	22.8	99	81	10	10	------	
6	30.8	22.6	95	85	10	10	1	d p.
7	31.4	23.5	100	78	10	10	6.6	● ↘ p.
8	28.7	23.1	100	85	10	10	1.3	d a. p.
9	31.3	23	95	72	10	10	1	d p.
10	30.7	22.9	100	77	10	10	11.9	●² ⊤ p.
11	31.1	23.2	99	91	10	10	3	d ⊤ p.
12	30.5	22.5	96	74	10	10	.3	⊤ ●° p.
13	31	23	93	90	10	10	13.2	● ⌐ p.
14	32.6	24	98	91	10	10	12.5	● ⌐ a. p.
15	31.5	23.1	96	77	10	10	7.6	● p.
16	29.1	24	95	92	10	10	77.2	d a. ●² ↙° p.
17	29.8	23.8	100	78	10	10	18.1	● ↙° a. p.
18	32.5	22.7	97	92	9	10	24.4	● p.
19	31.1	23	100	75	10	9	1	● p.
20	29.3	23.3	95	81	10	10	15.5	● a. p.
21	31.6	24.1	92	81	10	10	37.1	●² ⌐ p.
22	27.6	23.1	90	89	10	10	36.1	● a. p.
23	31.5	23.3	99	69	10	10	------	
24	31	23.5	96	81	10	10	------	
25	30.7	21.1	96	68	10	10	------	
26	30.6	21.5	92	84	10	10	------	
27	32	22.2	99	75	10	10	------	
28	32	22.6	91	81	10	9	------	
29	31.5	22.5	97	67	10	8	36.8	
30	31.1	22.6	99	81	10	10	6.1	●² a. d p.
31	32.2	23	99	71	4	6	------	
Mean	31	23	96.7	80.3	9.6	9.6	------	
Total	------	------	------	------	------	------	328.1	

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.1	24.1	83	60	10	10	------	d° a.
2	35.7	23.5	94	53	5	7	------	⊤ a. ↙° p.
3	34.3	23	97	59	2	3	4.3	☊ a. ↘ p.
4	33.4	23.6	97	57	7	10	------	● a. d° ⌒ ↘ p.
5	31.9	23.5	97	72	10	7	7.4	d a. ● ⌒ ⊤ ↘ p.
6	31.8	22.8	97	69	10	10	4.3	d° a. ● ↙° p.
7	31.7	23.4	97	64	10	10	21.6	● a. p.
8	31.9	23.5	95	64	10	10	7.9	● a. p.
9	32	23	97	72	9	10	------	d° a. p. ↘ p.
10	33	24.4	92	67	10	9	1.3	d° a. ↘ p.
11	30.6	24.8	90	75	10	10	41.4	● a. p. ⌐ p.
12	30.8	23.6	99	77	10	10	29	≡ a. ● ⊤ a. p.
13	32.4	23.5	98	68	10	9	1.8	≡ a.
14	31.8	24.2	85	68	10	10	35.3	↘ a. ● a. p. ⊤ p.
15	29.5	24.4	78	78	10	10	63.5	●² ↙° a. p. ⌐ p.
16	30	23.1	89	77	10	10	10.4	●² ⌐ ●² a. ↙° a. p. ●
17	29.2	24.2	83	96	10	10	4.3	d a. ↙° a. p. ● p. ☋
18	33	24.5	92	64	10	9	39.9	● p.
19	30.4	23.4	98	73	10	7	9.1	● a. p. ⌒ ☋° p.
20	31.8	22.8	83	71	5	8	8.4	d° a. ☋° ● p.
21	28	23	97	86	10	10	33.3	● ⊤ a. p. ↘ ☋° ∈ p.
22	29.8	23.4	97	84	10	10	1.1	⌒° a. d a. p. ∈ ☋°
23	28	23	96	93	9	10	21.6	● a. p. ⌒ p.
24	30.2	23	97	76	9	10	.3	p ∪ ☋° p.
25	27	23.2	92	84	10	10	14.8	d a. p.
26	30.8	23.4	93	74	10	10	------	● a.
27	30.6	25	87	79	9	9	------	∈ ☋° p.
28	31	22.8	96	70	7	5	.8	☊ a. ⊤° ●° p.
29	30.8	22	95	72	5	10	10.4	d° a. p. ● p.
30	29.3	23.5	95	85	7	9	8.7	● a. d p.
31	29.5	22.8	97	89	4	9	4.3	d a. ● ↘ p.
Mean	31.1	23.5	93	73.4	8.6	9.1	------	
Total	------	------	------	------	------	------	385.2	

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	23.1	95	67	10	9	------	
2	33.5	23.4	97	62	8	8	------	
3	33	21.4	95	62	3	7	------	
4	32.7	22.2	97	90	7	8	23.5	● p.
5	30.5	22.8	99	84	10	10	2.7	●° p.
6	33.4	21.4	99	82	10	10	52.6	d a. ●² p.
7	30	21	98	83	9	9	20.1	d a. ● p.
8	31.2	22	99	66	10	9	4.1	d a. ●° p.
9	31.6	21.7	97	69	10	8	.4	d a.
10	30.4	23	96	76	9	9	44.9	● a. p.
11	31.7	22.5	97	82	10	9	23.9	● a. p.
12	31.9	22.3	99	-----	10	9	48.2	●² p.
13	30.4	22.2	98	75	10	8	3.3	d a. ●° p.
14	31	23	96	75	10	9	28.6	● a. p.
15	29.1	22.8	95	89	10	10	67.1	●² a. p.
16	27.6	23.4	97	88	10	10	68.5	●² a. p.
17	28.6	21.9	88	74	10	10	7.4	● a. d p.
18	32.5	22.1	97	61	5	8	------	d a.
19	30.7	22.8	97	71	9	7	------	
20	31.8	21.4	90	73	3	8	------	
21	28.5	22	96	80	8	10	1.8	d a. ●° p.
22	31.5	22.3	98	79	9	9	------	
23	31.6	21.8	98	75	9	9	3.5	●° p.
24	30.1	21.9	97	73	8	9	11.7	● p.
25	30	22.5	93	82	10	10	12.9	●° a. p.
26	31	22	96	74	10	10	------	
27	32.8	21.7	97	59	9	8	------	
28	33.6	21.3	98	72	10	8	------	≡° a.
29	32.2	20.6	98	82	4	9	2.6	●° p.
30	30.5	22.5	98	89	8	9	8.9	●° a. p.
31	32.5	22.2	100	78	10	9	.3	≡° a. d p.
Mean	31.2	22.2	96.6	75.7	8.6	8.9	------	
Total	------	------	------	------	------	------	437	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	23.4	95	65	9	7	------	
2	33.8	22.6	95	58	7	3	------	
3	31	22.7	96	75	3	7	3.9	● a.
4	32.3	22.2	96	69	7	6	1.5	d a.
5	32.8	22.8	96	93	7	10	6.6	⊤ ● p.
6	33	21.7	97	68	6	7	------	
7	31.8	23.5	97	91	7	10	13.4	●° p.
8	27.8	22.3	97	85	10	10	1.8	d a. p.
9	33	23.1	97	73	7	5	1.5	d a.
10	33.3	22	96	69	7	7	------	
11	31.8	17.6?	97	91	9	10	7.4	● p.
12	32.4	19	96	66	7	7	------	
13	32.4	19.5	95	71	10	9	20.1	⊤ ● p.
14	31	20.2	97	90	9	10	12.2	● a. d p.
15	31	19.1	97	74	9	10	58.4	● a.
16	27	19.2	97	95	10	10	81.1	●² a. p.
17	27.8	20.8	97	88	10	10	18.6	●² a. p.
18	32.5	18.7	97	70	7	9	------	
19	33.1	21.4	96	77	7	7	11.7	d a. p.
20	31.3	21.4	97	69	10	6	1.8	d a. p.
21	29	22.3	95	97	10	10	54.6	●² a. p. ⌐ p.
22	28.2	21.4	98	84	10	10	.5	d a.
23	33.2	19.9	97	66	6	7	2	d p.
24	32.3	20.5	97	94	7	10	49.8	●² a. p. ∈ ⌐ p.
25	32.7	18.1	98	64	4	9	.3	d ∪ p.
26	32.5	19.8	98	72	6	8	------	
27	33.2	20.5	94	65	6	7	------	⌒ p.
28	34.2	22	96	56	3	7	------	↙ p.
29	33.2	20.8	95	69	3	7	------	
30	28.6	20.7	92	91	4	10	11.9	●° a. p.
31	33	20.9	97	68	4	5	------	⌒ p.
Mean	31.7	21	96.3	76.2	7.1	8.1	------	
Total	------	------	------	------	------	------	359.1	

Meteorological data for third and fourth class stations—Continued.

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	27.6	19	98	68	10	9	13	● a.
2	28.6	19.6	98	65	2	5	------	≡ a.
3	31.3	19.2	98	66	7	8	5.6	● p.
4	30	18.4	98	66	9	9	3.3	● p.
5	28.1	18.8	97	66	2	8	------	
6	30.5	19.3	98	68	7	9	32.5	≡ a. ● a. p.
7	29.1	19	97	66	5	10	1.8	≡° ●° a.
8	29	19.3	97	66	5	7	------	
9	30.5	19.9	98	67	2	5	------	♌ ≡ a. d p.
10	30.2	19.5	98	71	8	9	9.7	● a.
11	29.4	20	98	64	2	8	------	
12	30.7	20.4	98	64	7	7	------	
13	31.2	20.1	97	65	4	9	------	≡° a. d° p.
14	29.5	19.3	97	70	7	8	5.3	♌ ≡° a. ●° p.
15	29	19	98	69	2	6	2	≡ a. ●° p.
16	30.5	18.5	98	67	5	10	64.8	●° a. ● p.
17	28.2	17	98	70	10	10	35.8	●² a. p.
18	27.4	18.1	97	70	7	5	------	
19	29	18	98	69	10	8	4.6	≡ ● p.
20	28.5	19.3	98	68	2	7	1.3	
21	30	18.4	97	70	9	10	8.9	● a. p.
22	28	18.8	98	68	8	8	2.5	●° a.
23	29.2	19.5	98	66	2	5	------	≡ a.
24	30.8	20	97	63	4	7	------	
25	31.1	19.4	98	64	2	8	------	d° p.
26	30.2	19	97	69	2	5	------	♌ ≡° a.
27	31	20.3	98	65	7	2	------	≡ a.
28	31.5	19.2	97	66	8	6	------	
29	31.1	20	98	67	7	7	------	
30	30.7	20.3	98	67	5	9	5.6	●° p.
31	30	20.5	98	65	3	6	------	d a.
Mean	29.7	19.3	97.7	66.9	5.5	7.4	------	
Total	------	------	------	------	------	------	196.7	

STA. CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.1	22.7	97	86	10	9	------	d a.
2	32.4	22.7	97	66	7	3	------	♌ a.
3	31.2	21.4	98	93	3	9	3.8	● a. d° p.
4	31.1	21.2	97	83	10	8	2	d ◠² a. ◟ p.
5	32.9	23.1	97	62	9	7	------	d a. ◟ p.
6	29.5	22.2	98	81	8	7	14.5	♌ d² a. ◠ d p.
7	30.1	23	98	80	8	8	26.4	● a. p.
8	28.2	22.5	98	84	10	10	4.6	d a. p.
9	31.2	23	98	87	10	10	15.7	♌² a. d ● p.
10	32.5	21.7	98	69	7	7	------	♌ a.
11	31.9	23.6	93	84	8	9	25.4	♌° a. d ●° p.
12	32.7	21.3	96	60	8	7	------	♌° a.
13	30.3	23	96	81	10	8	5.4	♌ a. d p.
14	30.9	22.5	98	80	8	9	8.7	≡° ◠² a. d a. p. ●° p.
15	29.9	22.7	95	78	8	10	12.2	◠° a. d a. p.
16	28.8	23.2	84	90	10	10	56.1	● a. p. ↙° p.
17	27	23.4	93	89	10	10	19.3	↙° a. ●² a. p.
18	32.5	24	87	63	8	5	5.1	●° p.
19	30.2	23.3	97	77	10	9	3.1	d a.
20	29.9	22.8	98	74	9	8	5.4	d a.
21	26.7	23.2	93	98	10	10	28.9	● a. p.
22	29	23.1	90	76	10	9	4.6	●° a. p.
23	30.7	22.5	97	70	6	7	.3	d a.
24	30.7	22.1	99	69	6	8	7.4	≡° ♌² d a. ● p.
25	31.9	21.2	98	64	8	9	------	♌² a. ♡ p.
26	31.5	21.2	97	69	10	9	------	♌ a.
27	32.9	23.8	97	66	8	8	------	
28	33.5	21.8	98	63	3	6	5.1	●° ◟ p.
29	32.5	21.9	98	63	2	6	4.1	♌²
30	29.7	22.5	96	87	7	8	10.9	●° a. p.
31	31.7	22.6	99	69	8	5	.5	♌² a. d p.
Mean	30.8	22.6	96	76.2	8	8	------	
Total	------	------	------	------	------	------	269.5	

ANTIPOLO.

[ϕ=14° 36′ N; λ=121° 10′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.6	21.9	97	83	10	9	5	● ┬° a.
2	30.8	21.3	98	65	8	3	------	● ◠° a.
3	29	22	97	86	8	10	25.4	♌ a. ● a. p.
4	30.2	22.8	97	79	10	8	17.7	≡° ┬° a. ◩ ● p.
5	31	22.1	98	89	8	8	4.8	● a. p. ◩ p.
6	27.3	22.3	97	88	8	10	12.4	●° ┬ a. ◩ ● p.
7	29.2	22.2	98	90	9	10	25.1	● a. p. ◩ p.
8	26.4	22	97	89	10	10	3	d a. p.
9	29.9	22.8	97	79	9	8	.5	p a. ◩ p.
10	31.1	23.3	96	79	8	10	------	◠² a. ┬° p.
11	31.3	22.6	96	81	7	8	15.5	♌² p a. ● ┬ p.
12	31.7	20.9	91	69	9	8	16.5	♌° a. ◩ ● p.
13	29.9	21.8	97	87	9	9	5.6	●° a. p. ◩ p.
14	29.8	21.8	96	81	9	8	.5	p a. p. ┬ ◟ p.
15	30.7	20.8	95	69	9	9	3.8	♌² a.
16	28.2	22.4	97	93	10	10	21.8	●° a. p.
17	26.4	21	96	91	10	10	21.1	● a. p. ♡ p.
18	32.1	23	92	64	9	8	3.6	♡ p.
19	30.2	22.9	97	87	10	4	8.2	●° a. p.
20	31.8	21.2	97	69	6	6	.3	◠² d a.
21	27.6	21.7	96	99	8	10	22.1	●° a. p. ≡ ♡ p.
22	30.4	22	97	79	10	10	4.6	● a. ♡ p.
23	31.5	22.3	97	91	9	9	6.8	♌ a. ◠ ●° a. p. ◟°
24	29.9	21.3	98	93	6	6	8.4	● a. ┬ ◟ ♡ p.
25	30.6	19.8	97	76	3	8	------	♌² a. ∪ p.
26	29.9	21.8	98	71	6	9	1.8	♌ a. ∪ p.
27	29.7	24.2	92	77	9	10	------	●° a. p ∪ p.
28	32.3	22.4	93	59	3	4	------	♌² a. ◩ p.
29	31.8	21.3	96	68	2	4	------	♌² a. ◟ p.
30	29.8	20.6	91	68	7	9	18.3	♌ ◠ a. ●° a. p. ◩
31	30.6	21.8	97	82	8	7	4.3	●° a. p. ◠ ◩ p.
Mean	30	22	96.1	80	8	8.1	------	
Total	------	------	------	------	------	------	257.1	

IBA.

[ϕ=15° 20′ N; λ=119° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.7	22.5	98	98	10	10	103.4	●² a. p. ◩ p.
2	29.9	21.9	95	74	10	10	7.1	d a. ○ ● ◩ p.
3	27.7	22.7	93	92	10	10	101.1	●² a. ● p.
4	30.5	23.5	97	77	10	4	------	◟² p.
5	31.1	22.5	99	74	5	7	9.1	◠ ● ◟ p.
6	30.2	22	99	81	10	10	2.8	●° ◩ p.
7	31.6	22.3	95	71	5	10	11.2	○ a. ● ◟ p.
8	29.6	23.7	95	79	10	10	43.4	●² p.
9	29.4	22.6	97	90	10	10	7.7	●° a. p. ◩ p.
10	30.6	23	97	87	10	10	6.1	┬ ● ◟ p.
11	29	23.1	96	95	10	10	61.2	●² ┬² p.
12	31.3	22.1	88	71	10	10	------	○² a. d p.
13	31.1	22.5	98	76	10	10	4.1	◩ ● p.
14	31	22.2	96	75	5	6	6.9	d a. ◠² ◩² ● p.
15	31.2	21.5	98	72	10	10	------	○ a.
16	32	22.5	98	75	8	10	3	d a. ● p.
17	28.3	22.5	80	80	10	10	10.5	● p.
18	32	23	98	78	10	10	------	d a. ◟ p.
19	31.4	22	97	80	4	10	11.6	◩ ● p.
20	31.5	21.5	98	74	2	8	------	
21	31.9	21.5	96	65	4	9	.4	♌ ≡° a. ●° ◟ ∪² p.
22	31.2	21.5	97	72	5	9	------	○ a. ◩² p.
23	31.5	22.3	97	74	4	10	1.3	♌ ≡° a. ◠ ◩ ●° p.
24	31.5	22	97	65	4	4	8.1	◩ ● p.
25	31.2	21.5	98	74	3	8	------	≡° a. d ∪ p.
26	31.1	21.3	97	75	2	8	.8	≡° ♌² a. ◠² ●° p.
27	29.8	23.7	97	85	10	10	15.6	● a. p. ◩ p.
28	30.9	23.8	94	79	10	4	------	d° a. ◟ p.
29	31.1	21.5	96	69	8	4	------	♌° a. ┬ ◟² p.
30	31.5	21.3	93	69	8	10	9.4	♌ a. ● ◩ p.
31	31.5	21.5	98	75	4	8	.5	d a. p. ◟ p.
Mean	30.7	22.3	95.9	77.5	7.5	8.7	------	
Total	------	------	------	------	------	------	425.3	

Meteorological data for third and fourth class stations—Continued.

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.7	22.3	96	88	4	10	7.9	● ┼ p.
2	31.6	22.2	96	71	10	8	25.7	● ┼ p.
3	32.9	23	96	65	10	9	3.8	●° d p.
4	33.4	22.8	95	58	8	10	------	
5	33.6	22.7	96	52	7	8	------	
6	33.1	22.2	96	54	3	7	.3	d p.
7	33.5	23	96	54	3	3	1.5	┼ ↘ ●° p.
8	30.5	23.2	97	70	2	10	35.8	● ┼ ↘ p.
9	30	22.5	97	77	10	9	3.3	●° p.
10	30.8	23.5	97	68	10	9	.5	d p.
11	32	23.7	97	78	10	10	40.6	●² p.
12	32.3	23.4	96	66	9	10	------	d° p.
13	31.7	22.5	96	71	9	7	------	d° p.
14	34	22.6	97	66	2	10	16	● ⌐↯ p.
15	33.1	22.2	95	54	9	8	------	
16	31.2	22.5	95	64	2	7	------	
17	31.4	21.6	84	64	10	10	27.5	◠ a. ● a. p.
18	30.5	23	97	66	10	10	------	
19	32	23	97	67	9	10	.3	●° ∪ p.
20	32.9	21.3	97	56	7	2	------	∪ p.
21	32.7	21.5	95	67	8	9	------	Ф p.
22	33.8	21.9	96	57	3	3	------	
23	34.1	23	94	62	2	10	12.7	● ⌐↯ p.
24	32.6	21.6	96	58	1	8	------	
25	33.4	22.5	95	58	3	8	------	
26	32.3	22	96	55	7	8	7.6	● p.
27	31.5	23.6	96	63	8	10	6.4	● p.
28	31.9	21.7	96	63	7	2	------	
29	32.7	20.6	97	61	2	1	------	
30	32.2	22.3	94	60	8	8	.3	d° a. p.
31	32.8	23	97	59	4	3	------	
Mean	32.3	22.5	96	63.6	6.4	7.6	------	
Total	------	------	------	------	------	------	190.2	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.1	24.6	83	65	9	9	16.5	●² ┬ ↘ p.
2	31.1	24	84	79	10	9	------	d a.
3	29.7	23.2	96	80	10	10	------	d ↘ p.
4	32.2	23.7	91	63	10	9	3.8	↘ ┬ ● p.
5	32.5	23.3	96	63	10	7	.3	Ω² a. ↘ ● p.
6	29.3	24.2	92	87	10	10	2	● a. d ┬ ◠ p.
7	32.1	22.3	96	68	10	10	------	Ω ≡° a.
8	32.2	23.3	90	63	10	9	19	● ┬ ↘ p.
9	31.9	23.3	91	69	10	9	------	Ω a.
10	32.5	23.3	95	81	10	10	11.2	Ω a. ┬ ● ↘ p.
11	25.9	23.7	97	98	10	10	171.4	Ω ≡° a. ●² ┬ ↘ a.p.
12	29.8	23	97	72	10	9	15	● a. p.
13	29.6	22.8	97	79	10	10	------	Ω ≡° d a.
14	31.4	23	97	74	10	7	------	Ω a. ∞ p.
15	31.7	22.6	94	72	10	10	------	Ω d a. ↘ p.
16	29.3	22.5	93	79	10	10	.8	Ω ●° a. ↘ d p.
17	27.1	23.4	74	96	10	10	114.6	↯° ●² a. p.
18	29.2	23.2	92	90	10	9	22.6	●² a. ● p.
19	29.5	23.5	97	83	10	10	1	● a. d ↘ Ф p.
20	30.5	22.5	97	71	10	10	------	Ω a. ↘ ∪ p.
21	28.2	23.2	94	92	10	10	4.6	Ω d a. ● ∪ ↘ p.
22	31.2	21.9	98	79	10	10	------	d ∪ ↘ p.
23	30.7	23.1	96	75	10	7	------	Ω a. ◠ ↘ p.
24	31.4	21.9	97	73	10	1	------	Ω a. d ◠ ↘ ∪ p.
25	32.2	21.9	96	69	10	10	------	Ω a. d ◠² p.
26	29.7	22.7	84	83	10	10	3.6	d² a. ● p.
27	27.9	24.3	89	86	10	10	6.9	●° a. p.
28	32	22.7	98	81	10	9	12.7	d a. ●² ↘ p.
29	29.5	22.8	97	77	10	1	1.3	Ω ≡° a.
30	29.7	22	97	75	10	10	20	● a. ●² p.
31	29.9	23.6	97	84	10	8	1	Ω ≡° ● a.
Mean	30.4	23.1	93.3	77.6	10	8.8	------	
Total	------	------	------	------	------	------	428.3	

SAN FERNANDO, UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	25.1	23.4	95	95	10	10	26.6	●° a p.
2	31	22.5	95	67	10	9	8.7	◠ a. ●° a. p. ◯² ↘ p.
3	25.3	22.9	92	90	10	10	83.6	● a. ┬ a. p. ●² p.
4	30.6	21.5	98	71	2	6	------	↘° p.
5	31.2	23	96	70	4	4	------	↘° p.
6	31.7	23	96	70	3	8	------	┬° a. ↘° p.
7	31.5	23.4	96	67	7	6	------	┼ a. ↘ p.
8	29	23.2	98	84	9	10	.3	◯ a. d ↘ p.
9	30	22.9	95	73	9	9	1.3	◯² a. d a. p.
10	31.5	24.1	92	71	10	10	6.7	d a. p.
11	30.1	23.4	88	76	10	10	51	⊕ ⌐↯ ●² p.
12	30	22.1	96	71	10	8	------	d² a. ⊕ p.
13	30.2	22.4	96	72	10	9	6.6	⊕ a. ↘ ●° p.
14	30.6	23.3	97	72	10	9	1.3	d ┬° ↘° p.
15	31.2	22.5	96	69	4	7	------	◯ a. p.
16	30.4	22.5	94	75	5	8	1.5	◯ a. ⊕ ↘° p.
17	26	23.7	97	89	10	10	4	d a. p. ┬° p.
18	29.2	22.1	98	78	10	10	2.1	d p.
19	29.9	22	96	75	10	8	------	↘° p.
20	31	22.6	97	73	2	2	------	
21	32	22.2	96	60	2	3	------	↘° p.
22	31.4	22.8	86	64	2	2	------	┬° ◠² d° ↘ p.
23	30.1	23	97	74	1	9	------	┬° d° ↘ Ф² p.
24	30.6	21.7	96	67	1	2	------	┬° ↘ Ф p.
25	31.2	22.1	97	69	2	3	------	Ф° p.
26	31.2	21.7	96	63	4	10	6.6	◯° a. ●° p.
27	26.9	23.3	84	98	10	10	60.9	●² a. p.
28	30.1	23.7	82	75	10	9	------	◠ a. ↘ p.
29	30.2	23.1	96	71	5	4	------	↘° p.
30	28.3	22.9	96	86	4	10	4.1	d² p.
31	30.4	21.9	97	75	1	7	------	┬° ↘ p.
Mean	29.9	22.7	94.5	74.5	6.4	7.5	------	
Total	------	------	------	------	------	------	265.3	

ECHAGUE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.4	22	96	59	2	4	36.3	≡ Ω² a. ┬ ●² p.
2	32.5	21.8	95	67	10	2	11.9	● ↘ p.
3	29.4?	23.1	97	69	10	10	.5	≡ a. d a. p.
4	29.4	22.4	96	83	6	9	1.8	≡° Ω a. d° a. p.
5	30.8	22.4	97	74	7	9	2.3	d a. p.
6	29.3	23.3	96	82	10	9	3.6	●° a.
7	31.4	22.4	95	69	10	7	6.1	● p.
8	30.7	22.8	95	82	9	8	5.8	● a. ┬ p.
9	33.3	22.8	95	66	9	9	7.9	┬ ● ↘ p.
10	33.4	23.3	97	65	9	8	------	≡ Ω² a. ┬ ↘ d p.
11	25	23.4	97	92	10	10	64	● a. p.
12	30.3	21.2	99	81	10	9	2.5	●² a.
13	28.9	23.4	96	80	10	9	3	d p.
14	29.7	23.3	96	77	10	8	2	d a. p p.
15	31	23.2	95	64	10	9	5.3	d° a. p.
16	29.6	22.4	88	62	10	6	9.1	● a. p p.
17	24.3	21.4	90	92	10	10	62.4	d a. ●² p.
18	27.4	22.1	96	88	10	10	3.1	● a. d p.
19	29.4	23.2	97	83	10	9	1.5	d° a. p.
20	29	21.7	96	65	9	9	.3	┬ d° p.
21	27.9	22	96	81	7	10	3	≡ Ω² a. d p.
22	28.9	22.7	94	92	9	9	6.9	●° a. p. ┬ ↘° p.
23	29.3	22.6	98	73	10	9	8.7	p² a. ● p.
24	31.7	22.7	96	58	10	3	.5	d° a. p p.
25	30.4	22	95	78	8	9	37.3	≡° Ω a. ●² p.
26	25.9	22.4	96	93	8	10	41.1	d a. ● p.
27	24.9	22.1	85	89	10	10	15.5	● a. p.
28	32.1	21.4	96	59	3	8	------	↘ p.
29	33.2	21.3	96	56	3	2	------	Ω² ↘° p.
30	31.8	20.3	94	61	8	6	------	≡° Ω a.
31	32.8	21.9	96	61	1	1	------	≡ Ω² p.
Mean	29.9	22.4	95.2	74.2	8.3	7.8	------	
Total	------	------	------	------	------	------	342.4	

Meteorological data for third and fourth class stations—Continued.

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.5	24.2	93	85	8	7	14	◠ p a. ●° p.
2	30	24	95	76	10	8	12.9	● a. ↘ p.
3	25.6	24.5	93	89	10	10	33.2	● a. p.
4	28.8	23	91	78	3	8	------	↘ p.
5	29.9	24	85	75	0	3	------	
6	30.2	24.5	87	75	4	9	------	┬° d° p.
7	30.4	24	87	71	5	7	------	
8	27.9	24.5	91	82	9	9	2.5	● a.
9	27.8	24.5	91	87	10	10	1.3	┬° p p.
10	27.3	25	88	80	10	10	7.9	p a. p.
11	29.5	24.5	84	77	10	10	40.6	┬° ●² p.
12	28.9	24.4	93	78	10	7	1	● a. p p.
13	28.6	24	88	78	8	9	1	d° a. ┬° p p.
14	29.9	25.5	88	75	8	7	1	p ┬° ◠ p.
15	30.6	24.7	87	74	3	6	------	
16	31.9	24	83	56	7	4	------	⊕² p.
17	26.9	23.5	72	77	9	10	2.5	d° a.
18	29.4	24	88	78	10	10	4.3	● a. p.
19	29.9	24.5	91	75	8	3	------	
20	30.4	23	80	65	0	3	------	⊕ p.
21	30.8	23	77	65	2	6	------	┬° ⌣ p.
22	30.4	24	84	75	0	7	------	┬° d° ↘ p.
23	30.4	24	86	71	0	8	1	┬° p p.
24	30	24	86	67	0	2	------	┬° p.
25	30.4	23.8	85	66	0	3	------	⌣ p.
26	29.8	23.5	83	70	4	10	6.6	d p.
27	27.1	25.4	88	87	10	10	19	● a. p.
28	30.4	24.9	88	78	7	6	------	●° a. ┬° d° ↘ p.
29	29.5	25	88	81	10	6	3	◠° ● a.
30	29	25	88	79	8	9	2.3	● p.
31	29.6	24	89	81	2	4	------	┬° ↘ p.
Mean	29.4	24.2	87	75.8	6	7.1	------	
Total	------	------	------	------	------	------	154.1	

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.6	23	97	81	10	8	18.3	d a. ● p.
2	30.7	23	95	72	10	10	6.1	● a. p.
3	26.5	23.2	97	86	10	10	41.9	● a. p. ↙° p.
4	31.6	22.5	97	64	9	7	------	≡° a. ↙° p.
5	33.3	21.4	96	54	2	5	.5	≡° Ω a.
6	32.2?	23.9	94	71	9	9	8.4	● a. p. ⌐↘ p.
7	32	22.5	97	77	5	8	5.8	d° ┬ ↙° p.
8	31.3	24	96	73	10	10	3.8	●° a.
9	28.7	24.4	96	80	10	10	9.1	● a. p.
10	26.1	24.5	88	85	10	10	25.9	● a. p.
11	30.2	23.7	93	73	10	10	2	↙° d° a. ↙ ● p.
12	30.4	23.1	96	72	10	10	.5	d° a. ◠° ● p.
13	32.5	23	97	66	8	9	------	d° p.
14	32.8	24.4	87	62	6	6	------	↙° p.
15	34.5	23.5	83	55	3	5	------	
16	32.9	23.7	71	49	8	9	------	◯° a. p.
17	28	20.5	75	68	10	10	------	d° p.
18	32.1	24.4	82	72	10	10	------	d° ↙° p.
19	32.9	23.9	93	56	9	2	------	
20	32.9	23.2	78	46	2	1	------	Ω p.
21	33.1	23	85	53	4	5	------	Ω a.
22	33.8	22.3	94	54	3	2	------	Ω ≡° a. ↙° p.
23	32.9	21.5	95	60	3	5	------	Ω² ≡° a. ┬ Ω° p.
24	32.6	22.8	94	64	2	3	------	Ω a.
25	32.8	21	95	52	2	4	------	Ω² ≡° a. ⌣ p.
26	30	24	82	83	9	10	11.2	d° a. ● p.
27	26.6	22.7	74	91	10	10	138.9	↙ ●² a. p.
28	30.5	23	91	75	10	8	.4	↙ p.
29	29.3	24.3	94	78	10	10	.5	● a.
30	30.3	22.5	97	79	2	5	.4	Ω² ≡° a. ◠ ⌐↙° ●° p.
31	30.4	23.5	96	74	2	5	------	↙° p.
Mean	31.1	23.1	90.5	68.5	7	7.3	------	
Total	------	------	------	------	------	------	273.7	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.9	22.2	88	83	8	5	2.5	● a.
2	28	22.1	91	83	6	7	30.5	● p.
3	27	21.8	93	89	9	10	19.8	● a. p.
4	27.4	21.8	90	80	9	6	------	
5	28.1	21.8	88	79	1	4	6.6	●° p.
6	25.6	22.3	95	91	8	10	86.6	● a. ●² p.
7	27.2	21.6	85	78	9	8	12	● a. p.
8	27.8	22.5	90	88	7	8	9.1	● a. p. ↙° p.
9	27.6	23	92	87	8	8	58.9	●° a. ●² ↙° p.
10	26.6	21.8	94	94	10	10	79.5	●² a. p.
11	29.2	21.8	93	84	10	7	8.9	● a.
12	28	23.1	86	91	7	10	16.3	● a.
13	27.4	23.1	92	87	8	9	7.7	● a. p.
14	29.2	23.2	91	78	10	6	------	d° ◠ a.
15	29.6	23.5	87	80	7	5	------	
16	28.4	23.7	87	79	3	6	26.4	● p.
17	25.9	21.6	91	75	9	10	2.5	●° a. p.
18	27.6	22.4	81	77	8	8	------	
19	27.7	22.4	81	80	4	8	------	
20	27.8	22.9	82	76	4	5	4.8	
21	26.4	22.4	84	85	10	10	2	●° a. p.
22	28.5	22.7	80	75	7	4	------	
23	28.3	21.6	84	83	0	7	10.9	● p.
24	29.7	22.1	95	83	6	7	.4	d ◠² a. p.
25	28.8	22.6	92	84	6	6	6.1	● p.
26	27.6	22	85	81	8	9	24.9	d a. ↙° p.
27	27.8	22.8	93	90	10	10	53.2	↙° a. ●² a. p. ⌐↘ p.
28	29.4	22.6	88	76	8	5	------	↘² p.
29	30.6	24.2	87	74	8	5	------	
30	30.5	24	82	77	5	4	------	
31	30.4	23.9	85	75	1	7	.2	
Mean	28.2	22.6	88.1	82	6.9	7.2	------	
Total	------	------	------	------	------	------	469.8	

SEISMOLOGICAL BULLETIN FOR OCTOBER, 1912.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

3, $16^h\ 15^m\ 00^s$* [4, $0^h\ 15^m\ 00^s$]. **Central Mindanao.** Earthquake of intensity V–VI, felt throughout the central part of the Island included in the Provinces of Cotabato, Bukidnon and Agusan. Judging from the observations made at Butuan and Cotabato its place of origin was to the NE of the last mentioned province.

4, $12^h\ 53^m\ 05^s$* [4, $20^h\ 53^m\ 05^s$]. **Central Luzon.** Earthquake of intensity V in the provinces of Bontoc, Baguio, Nueva Vizcaya, Nueva Ecija, Bulacan, Rizal, and the north of Laguna. From the intensity and direction which the shock had in Nueva Ecija it must have originated in the N of this province, in the southern slopes of the cordillera known as Caraballo Sur. No data has come to hand of the intensity in the epicentral region, because there is no town of any importance in the whole of that region of more than 1,000 square kilometers in extent. The scale of intensity placed at the beginning is that which was observed in the stations nearest to the N and S of the meizoseismic area.

6, $3^h\ 45^m$ [6, $11^h\ 45^m$]. **Talacogon** (Agusan, E Mindanao). Oscillatory earthquake of intensity IV and very short duration.

7, $11^h\ 36^m$ [7, $19^h\ 36^m$]. **Talacogon** (Agusan, E Mindanao). Oscillatory earthquake of intensity IV–V, direction S–N, and duration 10 seconds.

7, $14^h\ 00^m$ [7, $23^h\ 30^m$]. **Guam** (Mariana Islands). Earthquake of intensity III and of short duration.

7, $20^h\ 00^m$ [8, $4^h\ 00^m$]. **Sarangani** (S Mindanao). Earthquake of intensity III. Repeated with the same intensity at $2^h\ 20^m$ of the 8th, ($8,\ 10^h\ 20^m$).

18, $12^h\ 27^m\ 46^s$* [18, $20^h\ 27^m\ 46^s$] **Calapan** (NE Mindoro). Oscillatory earthquake of intensity IV, direction SSE–NNW, and duration 7 seconds.

18, $21^h\ 52^m$ [19, $5^h\ 52^m$]. **NE Mindanao.** Earthquake of intensity IV, felt throughout the whole of the Peninsula of Surigao and the north part of the Agusan valley: Its epicentre was situated to the E of the Bay of Butuan.

19, $2^h\ 31^m$ [19, $10^h\ 31^m$]. **Sarangani** (S Mindanao). Earthquake of intensity III.

26, $9^h\ 05^m\ 44^s$* [26, $18^h\ 35^m\ 44^s$]. **Guam** (Mariana Islands). Earthquake of intensity VI, duration 15 seconds. It began with weak vibrations W–E for a few seconds; there then followed strong undulations NW–SE, which stopped clocks and shook houses and furniture, but without causing any damage. From the data obtained in Manila, Zikawei

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in Greenwich mean time (Midnight=0^h), Insular time being added in brackets for the convenience of Philippine readers.

and Osaka it would appear that the earthquake originated in the sea some 200 kilometers to the W or WNW of Guam. The local time given by the observer of the meteorological station in Sumay ($18^h\ 32^m$) must be only approximate. This earthquake was registered not only by the seismographs of the Far East but also by many in Europe, as may be deduced from the record of the following times at which a seismic perturbation was registered in several Observatories.

	h	m	s		h	m	s
Osaka, Japan	9	05	33	Vienna, Austria	9	17	36
Manila, P. I.	9	05	44	Triest, Austria	9	17	53
Taihoku, Formosa	9	06	24	Göttingen, Germany	9	18	52
Zikawei, China	9	06	25	Stonyhurst, England	9	19	
Irkutsk, Russia	9	09	27				

26, $9^h\ 16^m\ 30^s$* [26, $17^h\ 16^m\ 30^s$]. **Northern Luzon.** Earthquake of intensity V, felt in all the provinces situated to the N of parallel 17°.5. Its origin was probably close to the Island of Camiguin. The perturbation produced by this earthquake is on the same record of the preceding one of Guam No. 251, but the beginning can be perfectly distinguished from among the maximum waves of this latter.

30, $3^h\ 32^m$ [30, $11^h\ 32^m$]. **Aparri** (NE Luzon). Oscillatory earthquake of intensity III, direction N–S, duration 6 seconds.

31, $12^h\ 05^m$ [31, $20^h\ 50^m$]. **Calapan** (NE Mindoro). Oscillatory and trepidatory earthquake of intensity IV, direction N–S and duration 10 seconds.

31, $17^h\ 27^m\ 50^s$* [Nov. 1, $1^h\ 27\ 50^s$]. **Yap** (Western Carolines). At about $2^h\ 40^m$ (local time), earthquake of intensity III, duration 5 seconds. It is reported that extraordinary noise of the sea was heard moments after the shock, although the weather was perfectly calm. This earthquake, the origin of which must have been not far from Yap, was also registered in the principal observatories of Europe and America, as it is shown by the following data:

	h	m	s		h	m	s	
Osaka, Japan	17	28	56	Aachen, Germany	17	42	42	
Taihoku, Formosa	17	29	30	Stonyhurst, England	17	44	42	
Zikawei, China	17	29	38	San Fernando, Spain	17	49	30	
Irkutsk, Russia	17	32	56	Cartuja, Spain	18	27	36	L. W.
Graz, Germany	17	37	56	Ottawa, Canada	18	19	30	L. W.?

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Mean Greenwich. Midnight=0 h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T_o=8.2, ϵ=3.30, $\frac{r}{T_o^2}$=0.023; A_A: T_o=7.9, ϵ=3.12, $\frac{r}{T_o^2}$=0.034. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
238	3	I_V	eP	16 15 00				Central Mindanao.
			L	16 41				
			F	52				
239	4	II_V	eP	12 53 05				Central Luzon. Maximum and end lost by pens being thrown off through force of shock.
240	5	I_d	iP	22 20 57				
			F	23				
241	6	I	eP	0 50 21				
			i	50 40				
			L	50 43				
			M_E	50 51	1		216	
			F	1 03				
242	9	I_r	e	16 36 00				
			F	17 01				
243	11	I_d	eP	2 20 32				
			F	23				
244	12	I_r	e	15 31				
			F	16 20				
245	16	I_d	eP	22 26 20				
			L	26 40				
			F	29				
246	17	I_r	e	9 56				
			F	10 30				
247	18	I_d	eP	4 01 52				
			L	02 04				
			M_N	02 05	1–2	170		
			F	06				
248	18	I_r	e	12 05 51				
			eS	12 14				
			L	17 48				
			M_E	20 21	12–13		34	
			M_N	24 28	10–11	58		
			F	13 17				
249	18	I_V	eP	12 27 46				Calapan (NE of Mindoro).
			L	28 04				
			F	34				
250	24	I_d	eP	17 58 42				
			L	58 57				
			M_N	59 08	1	71		
			F	18 03				
251	26	I_r	eP	9 05 44				Guam (Mariana Islands). End overtaken by following earthquake.
			L	09 28				
			M_N	11 40	8–9	559		
			M_E	13 14	11		227	
252	26	I_V	e	9 16 30				Northern Luzon.
			M_N	16 54	6–7	274		
			F	10 02				
253	27	I_d	eP	11 09 52				
			L	10 07				
			M_N	10 17	3	22		
			F	13				
254	27	I	eP	16 40 21				
			i	42 09				
			L	42 24				
			M_N	42 41	5	304		
			M_E	42 53	5–6		367	
			F	17 11				
255	29	I_r	e	6 25				
			F	7 04				
256	29	I_r	e	19 08				
			F	30				
257	31	II_r	eP	17 27 50				Yap (Western Carolines).
			iS	31 18				
			L	34 18				
			M_E	37 27	9		313	
			M_N	37 29	9	310		
			F	19 20				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

3, 16h 15m 00s* [4, 0h 15m 00s]. **Centro de Mindanao.** Temblor de tierra de intensidad V–VI, sentido en toda la parte central de la Isla, comprendida por las Provincias de Cotabato, Bukidnon y Agusan: su origen a juzgar por las observaciones de Butuan y Cotabato se hallaba hacia la parte NE de la última de estas provincias.

4, 12h 53m 05s* [4, 20h 53m 05s]. **Centro de Luzón.** Temblor de tierra de intensidad V en las Provincias de Bontoc, Baguio, Nueva Vizcaya, Nueva Écija, Bulacán, Rizal y parte norte de La Laguna. Su origen según la intensidad y dirección que tuvo en Nueva Écija, se hallaba al N de esta provincia en las vertientes meridionales de la cordillera conocida con el nombre de Caraballo Sur. No poseemos datos de la intensidad que tuvo en la región epicentral, por no existir en ella pueblo alguno de importancia en una extensión de más de 1,000 kilómetros cuadrados. El grado puesto al principio es el de la que tuvo en las estaciones más cercanas al N y S del área meizoséismica.

6, 3h 45m [6, 11h 45m]. **Talacogon** (Agusan, E de Mindanao). Temblor oscilatorio de intensidad IV y de muy corta duración.

7, 11h 36m [7, 19h 36m]. **Talacogon** (Agusan, E de Mindanao). Temblor oscilatorio, dirección S–N, intensidad IV–V, duración 10 segundos.

7, 14h 00m [7, 23h 30m]. **Guam** (Islas Marianas). Temblor de tierra de intensidad III y de corta duración.

7, 20h 00m [8, 4h 00m]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III. Repitió con la misma intensidad a 2h 20m del día 8 [8, 10h 20m].

18, 12h 27m 46s* [18, 20h 27m 46s]. **Calapan** (NE de Mindoro). Temblor oscilatorio, dirección SSE–NNW, intensidad IV, duración 7 segundos.

18, 21h 52m [19, 5h 52m]. **NE de Mindanao.** Temblor de tierra de intensidad IV sentido en toda la península de Surigao y parte N del valle del Agusan. Su epicentro se hallaba al E de la bahía de Butuan.

19, 2h 31m [19, 10h 31m]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III.

26, 9h 05m 44s* [26, 18h 35m 44s]. **Guam** (Islas Marianas). Temblor de tierra de Intensidad VI, duración 15 segundos. Comenzó con movimientos débiles W–E durante algunos segundos; siguieron fuertes ondulaciones NW–SE, que pararon los relojes de pared y sacudieron mucho las casas y objetos, pero sin causar daños. El origen de este temblor según los datos de Manila, Zikawei y Osaka parece se hallaba en el mar a unos 200 kilómetros al W u WNW de Guam. La hora local dada por el observador de la estación Meteorológica establecida en Sumay (18h 32m) debe ser tan solo aproximada. Registraron este terremoto no solo los seismógrafos del Extremo Oriente sino también muchos de Europa, como parece deducirse de las siguientes horas del principio de una perturbación séismica registrada en varios Observatorios.

	h	m	s
Osaka, Japón	9	05	33
Manila, P. I.	9	05	44
Taihoku, Formosa	9	06	24
Zikawei, China	9	06	25
Irkutsk, Rusia	9	09	27
Viena, Austria	9	17	36
Trieste, Austria	9	17	53
Gotinga, Alemania	9	18	52
Stonyhurst, Inglaterra	9	19	

[1] La intensidad de los temblores se indica conforme a la conocida escala de Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo medio de Greenwich (medianoche=0h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

26, $9^h\ 16^m\ 30^s$* [26, $17^h\ 16^m\ 30^s$]. **N de Luzón.** Temblor de tierra de intensidad V, sentido de todas las provincias situadas al N del paralelo 17.5°. Su origen probablemente se hallaba cerca de la isla de Camiguín. La perturbación producida por este temblor va incluída en el registro del precedente de Guam No. 251; distínguese perfectamente su principio dentro de las ondas máximas de aquél.

30, $3^h\ 32^m$ [30, $11^h\ 32^m$]. **Aparri** (NE de Luzón). Temblor oscilatorio, dirección N–S, intensidad III, duración 6 segundos.

31, $12^h\ 05^m$ [31, $20^h\ 05^m$]. **Calapan** (NE de Mindoro). Temblor oscilatorio y susultorio, dirección N–S, intensidad IV, duración 10 segundos.

31, $17^h\ 27^m\ 50^s$* [Nov. 1, $1^h\ 27^m\ 50^s$]. **Yap** (Carolinas Occidentales). A $2^h\ 40^m$ próximamente (tiempo local), temblor de tierra de intensidad III, duración 5 segundos. Dícese que se oyó desde la estación un ruido especial del mar poco después del temblor. Este terremoto, cuyo origen no debió estar muy lejos de Yap, se registró también en los principales observatorios de Europa y América, según indican los siguientes datos:

	h	m	s		h	m	s	
Osaka, Japón	17	28	56	Aachen, Alemania	17	42	42	
Taihoku, Formosa	17	29	30	Stonyhurst, Inglaterra	17	44	42	
Zikawei, China	17	29	38	San Fernando, España	17	49	30	
Irkutsk, Rusia	17	32	56	Cartuja, España	18	27	36	L. W.
Graz, Alemania	17	37	56	Ottawa, Canadá	18	19	30	L. W.?

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

BULLETIN FOR NOVEMBER, 1912.

118171

METEOROLOGICAL BULLETIN FOR NOVEMBER, 1912.

By Rev. JOSÉ CORONAS, S. J.
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure for the month was decidedly lower than that of November of last year in all the stations of the Philippines. In Manila the difference from the normal was —0.42 millimeter, and from the mean of November, 1911, it was —1.63 millimeters. The highest pressure was observed in practically all the stations on the 8th, and the lowest on the 24–26th, except in Mindanao and the southern part of Negros and Bohol where the lowest reading was recorded generally on the 28th.

The mean monthly temperature was slightly higher than in November, 1911. The extreme values for Manila were 32.9° and 20.7°C. on the 3d and 27th, respectively.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS FOR NOVEMBER, 1912.

Station.	Pressure.						Temperature.					
	Mean.	Departure from November, 1911.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from November, 1911.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran[a]	757.35	.....	759.23	30	753.65	28	26.5	.....	34.8	21	21.2	17
Surigao	57.61	.....	59.43	8	52.16	24	[b]26.5	.....	[b]32	15, 18	[b]22.3	7
Cebu	[b]57.50	.....	[b]59.19	3, 8	[b]53.43	25	[c]27.1	.....	[c]32.6	20	[c]23	6, 25, 26
Iloilo	57.61	—1.78	59.27	8	52.52	25	[d]26.3	0	[d]32.2	21	[d]20.5	26
Ormoc	57.76	—1.78	59.58	3	51.73	25	26.3	+0.8	32.9	26	20.3	21
Tacloban	57.87	—1.83	59.86	30	50.09	24	[e]26.6	.....	[e]33	15, 18	[e]22.9	3
Capiz	57.87	—2.17	59.72	8	48.90	25	26.4	0	31.7	26	20.1	26
Calbayog	57.86	—1.88	59.80	8	52.64	25	25.8	+ .2	33.2	4	21.1	18
Legaspi	58.37	—1.79	60.14	8	54.31	25	26.7	+ .1	33.5	15	19	14
Atimonan	58.93	—1.74	60.50	8	54.64	25	26.4	— .2	30.5	2	22.4	30
Paracale	59.09	—1.83	60.81	8	55.26	25	26.6	+ .1	31.8	3	22.1	26
Manila	58.94	—1.63	60.66	8	55.20	25	25.7	+ .6	32.9	3	20.7	27
San Isidro	59.20	—1.64	61.10	8	55.65	25	25.6	+ .4	33.2	18	19.5	27
Dagupan	58.48	—1.83	60.32	8	55.33	25	26.8	+ .7	35	2	20.5	24
Bolinao	58.51	.....	60.25	8	55.54	25	26.8	.....	33.4	17	21.1	18
Baguio[f]	636.58	— .97	638.08	8	633.87	25	18	+ .7	26.4	27	13.3	25
Vigan	758.61	—1.84	760.22	8	755.71	25	26.8	+1	33.4	29	18.7	22
Tuguegarao	60.41	—1.43	62.17	8	57.83	26	24.8	+ .7	35.1	4	18	23
Aparri	60.54	—1.27	62.43	8	57.92	26	25.2	+ .5	32.4	2	20.5	23, 30

[a] 20 days of observation only. [b] 25 days of observation. [c] 21 days of observation. [d] 29 days of observation. [e] 24 days of observation. [f] The barometric readings of this station are not reduced to sea level.

Precipitation.—With the exception of the station at Laoang, the rainfall in all parts of the Philippines was greater than that of the corresponding month of last year. It must be remembered, however, that the last few months of 1911 were extraordinarily dry for the Philippines. But if the rainfall in the different stations be compared with the normals for November, it will be found that the positive differences almost equal the negative in number. In Manila the total rainfall was 164.5 millimeters which is greater than that of last year by 158.4 millimeters, and greater than the normal of the month by 33.6 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF NOVEMBER, 1912.

Station.	Total.	Departure from Nov. 1911.	Departure from normal.	Rainy days.	Departure from Nov. 1911.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from Nov. 1911.	Departure from normal.	Rainy days.	Departure from Nov. 1911.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*	*mm.*			*mm.*			*mm.*	*mm.*	*mm.*			*mm.*	
Jolo	176.7	+ 42.1?	— 8.2	17	+7	38.1	10	Legaspi	332.4	+148	—19	20	— 3	100.9	28
Isabela, Basilan	48.6	+ 35.3		8	+5	15.3	28	Sumay, Guam	156.5	+ 59.2		19	+ 2	25.4	7
Zamboanga	43	+ 15.8	— 63.8	6	+1	19	1	Calapan	208.6	+ 22.5		23	+16	57.9	25
Davao	274.7	+182.8	+110	12	+6	62.2	27	Virac	394.4	+257		23	+ 3	87.2	28
Cotabato	206.5		— 48.2	12		74.9	28	Nueva Caceres	298.4	+254.1	+44	19	+10	85.9	24
Cagayan, Misamis	173	+172.1		10	+8	53.3	27	Batangas	139.3	+136.9		16	+13	36.9	29
Dapitan	624.4			20		121.9	27	Atimonan	390.8	+338.5	—73.8	23	+ 9	54.4	16
Butuan	357.9	+203.8	+ 55.6	22	+2	122.9	27	Silang	76.2	+ 59.6		10	+ 6	30	6
Dumaguete	255.4	+212.9		10	+2	71.6	28	Paracale	406	+293.8		28	+10	83.1	6
Yap, W. Carolines	323.6	+248.5		21	+3	114.5	18	Sta. Cruz, Laguna	226.1	+198.5		17	+ 9	48.7	29
Tagbilaran[a]	200.5					79.2?	28	Manila	164.5	+158.4	+33.6	15	+12	74.2	29
Surigao	675	+499.1	+243	19	—1	228.6	5	Antipolo	207.2	+192.5		13	+11	63.8	28
Maasin	748.5?	+639.9	—416.3	11	+4	413.5?	24	Iba	65.5	+ 65.5		12	+12	16	20
Cebu[b]	366.5					143.2	24	San Isidro	76.9	+ 76.9	—19.5	7	+ 7	29.4	30
Iloilo	410.4	—338.4	+217.1	15	+1	105.4	1	Tarlac	79.7	— 76.1	— 8.5	13	+12	34.3	14
San Jose Buenavista	410	+407.9		12	+9	91.4	1	Baler	762	+718.5		21	+12	246.1	30
Cuyo	347.5	+343		11	+9	89.2	6	Dagupan	21.6	+ 21.6	—45.3	5	+ 5	10.2	9
Ormoc	[c]263.8?			19	+2			Bolinao	27.4		—17.2	4		20.1	19
Guiuan	[d]326.8?							Baguio	61.5	+ 44.7	—31.2	11	+10	28	1
Tacloban	[e]262			19	—1			San Fernando, Union	1.4	+ 1.4	—45.3	4	+ 4	.5	29
Capiz	424.5	+351	+116.1	22	+3	95.3	25	Echagüe	270.8	+264.8		21	+17	66.8	30
Borongan	777.8	+370.9	+256.6	23	0	311.9	24	Candon	19	+ 19		4	+ 4	13.5	18
Calbayog	354.4	+272.1	+ 79.5	25	+4	75.4	5	Vigan	.3	+ .3	—42.3	1	+ 1	.2	29
Masbate	200.9	+ 85.4		15	+2	50.8	5	Tuguegarao	251.8	+225.8	—31	16	+10	67.6	29
Romblon	297.6	+217		21	+8	59.7	11	Laoag	2.7	+ 2.7		3	+ 3	1.5	29
Laoang	366.1	—109.4		23	—2	49.6	24	Aparri	364.8	+328.2	+69.7	21	+10	107.9	19
Gubat	314.4	+ 49.9		26	+3	48.5	24	Sto. Domingo, Batanes	421.6	+252.7		25	+ 6	61.9	19

[a] 20 days of observation only. [b] 25 days of observation only. [c] Rainfall for the 24th is not included as the raingauge could not be observed after 10 p. m. [d] 24 days of observation: The raingauge was destroyed by the typhoon of the 24th. [e] Rainfall for the 24th is not included, as the raingauge could not be observed after 6 p. m.

DEPRESSIONS AND TYPHOONS.

This month, like October, was notable for the number of depressions and typhoons that crossed the Archipelago. The greatest of these was the one that struck the south of Samar and the north of Leyte and Panay on the 24th and 25th. The general tracks of all these depressions and typhoons are given in Plate XV.

DEPRESSION OF NOVEMBER 1 TO 3, 1912.

This depression appeared in the early morning of the 1st to the east of the Visayan Islands, which it crossed during the night of the 1st–2d in the form of a shallow depression of slight importance. Although the veering of the winds and the weather maps for 2 and 10 p. m. of the 1st, and 6 a. m. of the 2d clearly indicated the track of the depression across the Visayas, nevertheless its influence was scarcely noted, except by the copious rains which fell in the stations nearest to the centre of the atmospheric disturbance. The following typhoon warnings sent out by the Observatory give a fairly accurate idea of the track and character of this depression.

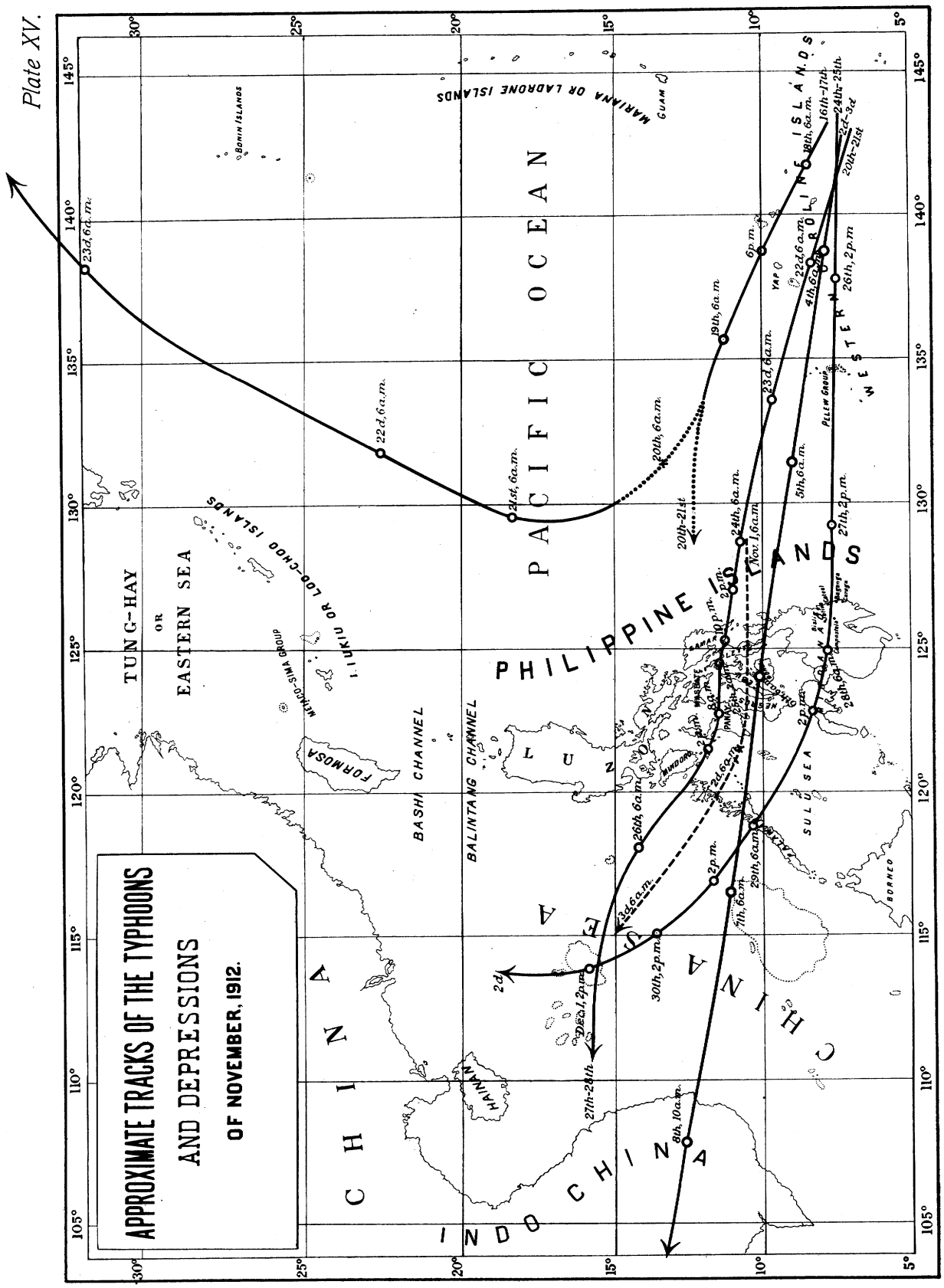
November 1, 9 a. m.: There is a new typhoon to the east of the Visayas, probably between 10° and 11° latitude north and 129° and 130° longitude east. It is moving apparently to W or WNW.

November 1, 8.45 p. m.: According to the last reports received this evening from the stations at Samar and Leyte, it would seem that the typhoon which made its appearance this morning to the east of the Visayas is at present of little importance and may turn out into a shallow depression crossing the Visayas by to-morrow.

November 2, 9.20 a. m.: The tyhpoon has been crossing last night the Visayan Islands in the form of a shallow depression, its center being situated early this morning between Cuyo and the southwestern part of Panay. It has been the cause of heavy rains throughout the Visayas, but no strong winds have been reported from any of our stations.

November 3, 11.55 a. m.: The depression lies over the China Sea between 14° and 15° latitude north and 114° and 115° longitude east. It is moving apparently at present to NW by W.

Plate XV.


APPROXIMATE TRACKS OF THE TYPHOONS
AND DEPRESSIONS
OF NOVEMBER, 1912.
PACIFIC OCEAN
EASTERN SEA
TUNG-HAY
OR
PHILIPPINE ISLANDS
CHINA
INDO CHINA
SULU SEA
BALINTANG CHANNEL
BASHI CHANNEL
FORMOSA
LUZON
MARIANNA OR LADRONE ISLANDS
GUAM
YAP
PELEW GROUP
BORNEO
HAINAN
MENADO
SANGI
MINDORO
PANAY
CEBU
NEGROS
MASBATE
SAMAR
LEYTE
BASILAN
JOLO
Nov. 1, 6a.m.
23d, 6a.m.
22d, 6a.m.
21st, 6a.m.
20th, 6a.m.
19th, 6a.m.
24th, 6a.m.
5th, 6a.m.
4th, 6a.m.
26th, 6a.m.
29th, 6a.m.
7th, 6a.m.
2d, 6a.m.
1st, 2p.m.
30th, 2p.m.
27th-28th
8th, 10a.m.
20th-21st
24th-25th
16th-17th
18th, 6a.m.
2d-3d
26th, 2p.m.
27th, 2p.m.
28th, 6a.m.
6p.m.
2p.m.
10p.m.

The following telegrams were dispatched to the meteorological centers of the Far East:

November 1, 9 a. m.: Typhoon E of the Visayan Islands, moving W or WNW.

November 2, 9.20 a. m.: The typhoon is crossing the western Visayas in the form of a shallow depression. It may increase in intensity in the China Sea.

November 3, 9.40 a. m.: Typhoon (or depression) W of Manila, more than 100 miles distant, moving WNW or NW.

It appears almost certain that the depression filled up on the 3d to the SE of the Paracels, not far from the meridian 115° E and the parallel 15° N.

THE NHATRANG TYPHOON, NOVEMBER 3 TO 8, 1912.

This typhoon is called the Nhatrang typhoon, on acount of the extraordinary violence with which it struck that town of Indochina. It appears that within living memory no typhoon of equal severity has been experienced in that place. Happily for the Philippines, this typhoon was not fully developed crossing the Visayas, although its velocity of translation was very great along the whole of its track from the south of Yap, Western Carolines, to Indochina.

On the 2d of the month the observations received from Guam and Yap began to give indications of a depression or typhoon situated over the Western Carolines to the ESE of Yap. By the afternoon of the 3d the first typhoon warning could be sent to the observatories of Tokio, Zikawei, Taihoku, Hongkong, and Phulien:

November 3, 4.25 p. m.: Typhoon near or over the Western Carolines, direction unknown.

A second cable was sent to the same observatories on the 4th, and in it the direction of the new typhoon was indicated:

November 4, 7.30 p. m.: Typhoon near or over the Pelew Islands, moving W or WNW.

In the track of this typhoon reproduced in Plate XV it will be seen that in fact the typhoon moved from the Carolines to Indochina in a direction intermediate between the two indicated by the Observatory, i. e., to W by N.

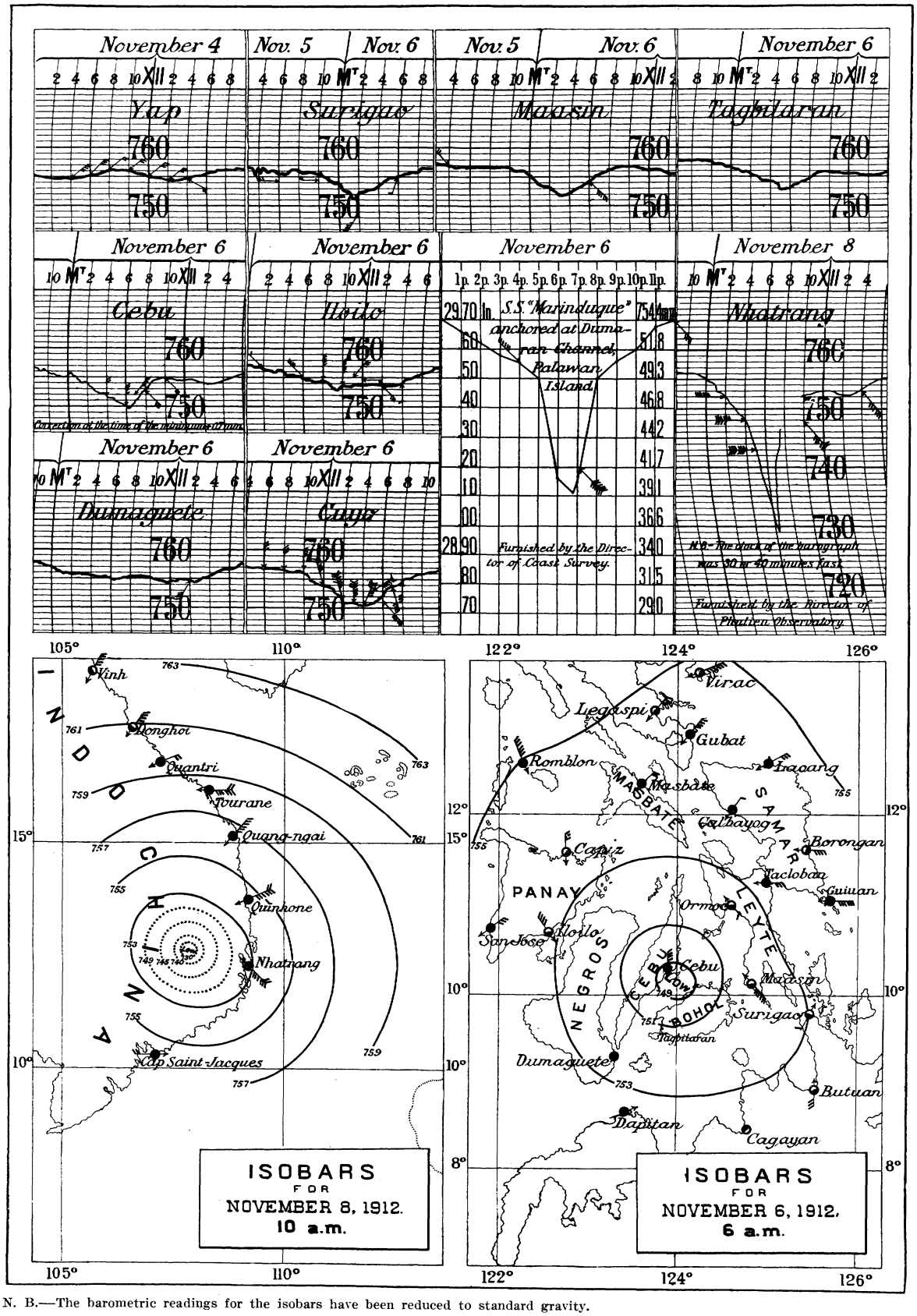
The velocity of the typhoon was such that at 1.30 a. m. of the 6th it was at its least distance from Surigao, at 6.20 a. m. of the same day it passed close by the south of Cebu, and at 4 p. m. it was in the Sulu Sea to the south of Cuyo. The Observatory described this part of the track of the typhoon in the afternoon of the 6th in these terms:

November 6, 3.30 p. m.: The typhoon is situated this afternoon in the neighborhood of Cuyo. It continues to move W by N with a very extraordinary rate of progress. The centre of the storm must have passed close to Surigao last night, and over northern Bohol early this morning; then it crossed Cebu Island a few miles to the south of the capital, crossed the central part of Negros Island, and passed to the south of Iloilo and San Jose de Buenavista close to the southernmost part of Panay Island.

In the upper part of Plate XVI are reproduced the barometric curves of the 6th from the following stations in the Philippines: Surigao, Maasin, Tagbilaran, Cebu, Dumaguete, Iloilo, and Cuyo.

From an examination of these curves it will be evident that the vortex of this typhoon was not very well developed when it passed close to Surigao, Maasin and Cebu. It was due to this that in none of these towns did the winds acquire any great force. In Cuyo, on the other hand, the winds were of almost hurricane force in spite of the fact that the vortex did not pass so close to this station as to the three mentioned above, all of which seems to indicate that the development and intensity of the typhoon was greater when it passed by the south of Cuyo than when it crossed the Visayan Islands. The observations made on board the steamer *Marinduque,* which at the time was in the Dumaran Channel, and went aground on a coral reef, confirm this. The barometer fell

Plate XVI.



N. B.—The barometric readings for the isobars have been reduced to standard gravity.

Barographic records and isobars, typhoon of November 3 to 8, 1912.

to 739.40 millimeters at 6.50 p. m. of the 7th, and the central calm lasted from 6.45 p. m. till a little after 7 o'clock, when the winds began to blow with great fury from the SE. Before the calm it appears that the winds were from the NW, which only reached force 7 of the Beaufort scale (moderate gale). Part of the detailed report written by the captain of the *Marinduque,* Mr. L. O. Colbert, is here reproduced, for it gives many interesting facts with regard to the storm. We have to thank Mr. P. A. Welker, director of the Geodetic Office of the Philippines, for a copy of this report.[1]

On Tuesday, November 5, the ship was at anchor in Green Island Bay, off the Barrio of Tumarbang, Palawan Island. At 6.30 a. m., Mr. Hart left the ship in the launch with a party of 6 seamen, 3 native guides, and supplies for ten days to build a triangulation station on Pagdanan Range * * *.

Wednesday, November 6, at 7 a. m., the weather was rainy and squally; gentle to moderate northwest breeze. The barometer read 29.75 at 10 o'clock. The indications were of a local depression only. At 2.30 p. m., the barometer began to fall rapidly; I hoisted recall for the water boats and ordered steam. At 3 p. m. the boats returned and were hoisted; hove up anchor and at 3.20 proceeded to the vicinity of Dumaran Channel for shelter. At 4 o'clock wind increased from the northwest and heavy squalls shut out land marks. Took in ship's awnings and cleared away both anchors to let go. Passed through Dumaran Channel at 5.30 and attempted to round north end of large island, west of South Channel Island, in order to anchor in the small bay to the north of it. Protection from the seas coming from the northwest could be had behind the reef making southwest from the island to the northward, and in case the wind shifted, the anchorage would be sheltered in every direction. Had slowed down to enter the bay and with a heavy wind and sea on the port beam the steamer made more leeway than was allowed for. It was impossible to judge the distance off the island on account of the heavy rains. Breakers suddenly appeared ahead on the starboard bow. The helm was put hard-a-starboard, port engine full speed astern and starboard engine full speed ahead, but before the ship responded to the helm she struck the reef on the starboard side. The seas then threw the steamer broadside into the reef and succeeding seas worked her on still further. The last sounding before the ship struck was 14 fathoms.

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[1] The present discussion of the typhoons of November, 1912, was finished and ready for the printer, when we received through the Director of Coast and Geodetic Survey a copy of another interesting report by the commanding officer of the steamer *Pathfinder* relating to the typhoon of November 6, 1912, through which this vessel passed while off the west coast of Negros. This report is a full confirmation of our track of this typhoon and of the statement that the storm was not so intense and well developed when crossing the Visayas as when passing over the steamer *Marinduque* close to Palawan Island.

We copy here part of this report:

"While engaged in the survey of the west coast of Negros Island, the ship encountered three typhoons, one of which necessitated the vessel putting to sea to ride out as a harbor could not be reached.

"At 2 a. m., November 6, the *Pathfinder* was anchored off the south shore of Unisan Island when a decided fall in the barometer was noted, steam was immediately ordered and the ship got underway for the coast of Negros near Sojotan Point 25 miles away where a shore party with launch was in exposed position. At daylight nothing could be seen of camping party and the sea was rising rapidly, a boat was lowered and sent ashore to make inquiries. The sea at this time was so rough that a landing with boat could not be made and in consequence the native boatswain swam ashore from the boat at considerable risk of being drowned. No information could be gained as to the whereabouts of the camping party, only they had left the preceding day taking a westerly direction toward Sojotan Point. The ship proceeded toward Sojotan Point only 4 miles away, but the storm was approaching so rapidly that before we arrived off the point the weather had become so thick that it was impossible to see to a distance of 100 yards. Appreciating the impracticability of reaching a harbor under these conditions, the ship was headed off shore to ride out the storm. At 10 o'clock a. m. when about 15 miles off shore we found ourselves in the center of the storm and a southerly course was made to run away from the center which was accomplished.

"The following day at noon, after the storm had subsided, we arrived off Sojotan Point and found the shore party all safe, the boats and launch also undamaged, which was due to the excellent judgment and perseverance of Assistant Garner and Chief Writer Hunycutt.

"It was discovered that the ship had sustained some damage to its engines during the storm on account of racing, and after putting ashore camping parties the vessel proceeded to Iloilo for repair."

As the ship was pounding heavily on the reef and the seas were breaking over the port side, I ordered the starboard whaleboat cleared away and lowered. This boat was manned, and in charge of Dr. Cole left the ship with 12 persons. The cutter was filled by the seas in lowering and was brought around to the starboard side in damaged condition. It was impossible to stand on the upper deck on account of the seas which were breaking over the side. The wind was blowing force 7.

About 6.45 p. m., the wind died suddenly. During this lull the cutter was bailed out and hoisted, and the port whaleboat lowered and brought around to the starboard side. Took soundings in fore and after holds and found 6 inches of water in each. In the engine room the water was up to the floor plates. I believe this water came over the weather side of the ship, filling the port alleyway and leaking under the bunker plates, as considerable coal washed into the fire room. Chief Engineer Peerce started all the pumps and the water began lowering immediately. The wind came up in full force from the southeast a little after 7 o'clock, and at the same instant Dr. Cole arrived along side the ship. He had safely landed one party and had made an unsuccessful attempt to return against the wind.

At 8.30 p. m. Dr. Cole and Mr. Reese returned to the shore party with blankets and provisions; at 10.30 the bilges in the engine room were dry, with no water making. At midnight the wind had dropped to a moderate southeasterly breeze. There was a small swell, but no seas. The ship rested easily on the bottom, with a list of 5° to port. * * * Mr. Hart and party returned at 7 p. m. and reported that they had suffered from the storm and had been in danger from falling trees and landslides. * * * All the triangulation signals built this season were destroyed by the storm. * * *

The Observatory continued following the track of the typhoon in the ordinary weather notes of the 7th, 8th and 9th:

November 7, 11.15 a. m.: The typhoon was situated early this morning over the China Sea about 116° longitude E and between 11° and 12° latitude N. It continues to move W by N.

November 8, 11.20 a. m.: The typhoon has continued moving W by N with the same extraordinary rate of progress as the preceding days. Its center was situated early this morning near or over the coast of Annam between 109° and 110° longitude E and in about 12° 30′ latitude N.

November 9, 10.45 a. m.: According to a telegram received from Phulien Observatory (Indochina), the typhoon entered Indochina near Nhatrang yesterday morning. Its center is situated to-day over Indochina and continues moving W by N.

After the typhoon had crossed the Island of Dumaran and the north of the Island of Palawan it followed its course across the China Sea without changing its direction nor diminishing its velocity. Its intensity and development went on increasing so that by the time that it reached Annam it broke with such fury and unaccustomed violence over the district around Nhatrang that it is said that such a typhoon is not remembered. It will doubtless be interesting to our readers to see the report of the director of the Phulien Observatory, M. G. Le Cadet, on this storm:

At 12.30 a. m. of the 8th the barometer registered 753.3 millimeters, the wind freshened from the WNW, and the sea became fairly rough. M. Gallois of the Nhatrang Observatory, says: "The typhoon was approaching, and in less than two hours it broke over the place, and in four hours had laid Nhatrang in ruins."

OBSERVATIONS MADE AT NHATRANG, INDOCHINA, NOVEMBER 8, 1912.

Time of the 105° E.	Barometer.	Wind.	Sea.
	mm.		
0.30 a. m.	753.3		Rather rough.
1.30 a. m.	52.2		Rough.
2.30 a. m.	49.7	At 2 a. m. strong winds from W	Do.
3.30 a. m.	47.1	At 3 a. m. a gale from W	High.
		At 3.30 a. m. a whole gale still from W, with a tendency to back to S with very violent gusts.	
4.30 a. m.	42.9	At 4 a. m. hurricane winds from W	Do.
5.30 a. m.	29.9	----do	
		At 5 a. m. terrible hurricane winds from W	
7.00 a. m.	45.0	After 5 o'clock the wind came from the S in violent gusts; about 9 o'clock it backed to the SE.	

The minimum was registered between 5.30 and 6 a. m. of the 8th. During the rest of the day, the wind was very fresh from the SE. The barograph appears to have been between thirty and forty minutes fast. Toward 7.40 the barograph was hit with a piece of flying wood, and hence the continuity of the curve was broken, till the instrument was put in order again.

Heavy rain which came down literally like a sheet of water accompanied the typhoon. The amount which fell during the night up to 8 a. m. of the 8th was 170 millimeters.

This typhoon, which is the most violent that has passed over Nhatrang within the memory of man, caused considerable damage. All the houses of Europeans have more or less suffered; in nearly all of them the roof was carried away and the ceilings fell in.

The foundations of the Pasteur Institute were laid bare and the roofs of the laboratory and of the residences of the staff were blown away. The telegraph line is down for more than 15 kilometers to the S of Nhatrang, and for 40 kilometers to the north. Almost all the trees were broken.

The center of the typhoon must have passed to the north of Nhatrang, in the region of Ninh-Hoa, some 40 kilometers north of Nhatrang.

Besides the typhoon warnings sent to the observatories of the Far East on the 3d and 4th, the following cables were despatched on the 5th, 6th and 7th:

November 5, 11.15 a. m.: Typhoon over the Pacific Ocean, about half-way between the Carolines and the Philippines moving W or WNW.

November 6, 8.45 a. m.: Typhoon over the eastern Visayas, moving W or WNW.

November 6, 4 p. m.: Typhoon over the northern part of the Sulu Sea, moving W or WNW.

November 7, 12.10 p. m.: Typhoon in about 115° E longitude and 12° N latitude, moving W.

This last warning which proved so accurate, was deduced from the constant direction and velocity which had been observed in the typhoon from the time that it passed at its least distance from Yap on the 4th. This direction was W by N, and the rate of progress was a little more than 18 miles an hour. In order to show more clearly that this velocity was practically uniform and constant, we have divided the track into three parts, and we have the following results: from 6 a. m. of the 4th till 1.30 a. m. of the 6th, 18.2 miles per hour; from 1.30 a. m. of the 6th (minimum distance from Surigao) till 4 p. m. of the 6th (minimum distance from Cuyo) 18.6 miles; and from 4 p. m. of the 6th till 5.45 a. m. of the 8th (minimum distance from Nhatrang) 18.5 miles per hour. Taking the whole of the track from 6 a. m. of the 4th till 6 a. m. of the 8th we have a mean hourly velocity of 18.3 miles.

TYPHOON OF THE WESTERN CAROLINES, NOVEMBER 18, 1912.

On the 18th and 19th of November the Observatory sent the following typhoon warnings to the observatories of the Far East:

November 18, 6.15 a. m.: Typhoon near or over the Western Carolines, direction unknown.

November 18, 7.30 p. m.: Typhoon north of Yap, Western Carolines, moving NW or NNW.

November 19, 6.30 a. m.: Typhoon NW of Yap, moving NW.

November 19, 5 p. m.: Typhoon E of the northern Visayas or southeastern Luzon, moving WNW.

In the ordinary weather reports for the 18th and 19th the following was said:

November 18, 11.15 a. m.: A depression or typhoon appeared yesterday afternoon to the SE of Yap, Western Carolines. Its actual direction cannot yet be ascertained.

November 19, 11.15 a. m.: The typhoon of the Western Carolines lies this morning to the NW of Yap, moving apparently to NW or NW by W.

The first definite signs of this typhoon appeared in the observations made in Yap on the 17th. The vortex passed close to the north of that station in the afternoon of the 18th causing a barometric minimum of 746.91 mm. at 6.30 p. m. and violent winds from WNW and WSW before the minimum, and from SW and SSW afterwards. Adjoined are the observations made in Yap on the 16th, 17th, 18th, and 19th.

OBSERVATIONS MADE AT YAP, WESTERN CAROLINES, NOVEMBER 16 TO 19, 1912.

Date and hour.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.	Date and hour.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.
		Direction.	Force.					Direction.	Force.		
November 16:	*mm.*		*0–12*		*mm.*	November 18:	*mm.*		*0–12*		*mm.*
6 a. m	757.74	Calm		c		3 p. m	749.20	NW	5	o, q, r	
2 p. m	56.15	NE	2	o	7.1	4 p. m	48.59	NW	4	o, q, r	
November 17:						5 p. m	47.74	WNW	8	o, q, r	
6 a. m	56.70	NNE	2	o		6 p. m	47.32	WSW	8	o, q, r	
2 p. m	54.57	NNE	3	o, t, l	1.8	6.30 p. m	46.91	WSW	5	o, q, r	
November 18:						7 p. m	47.04	SW	8	o, q, r	
3 a. m	54.13	N	2	o		8 p. m	48.10	SW	9	o, q, r	
6 a. m	54.10	N	2	o		9 p. m	49.42	SW	9	o, q, r	
10 a. m	54.01	N	2	o		10 p. m	50.54	SSW	8	o, q, d	114.50
Noon	51.96	N	2	o		November 19:					
1 p. m	51.07	NW	3	o, r		6 a. m	53.94	S	2	o, r	
2 p. m	49.92	NNW	4	o, q, r		2 p. m	55.09	SE	3	o, d	4.5

The backing of the winds from S to SE on the 19th caused the Observatory to announce that the typhoon had inclined more to the W:

November 19, 4.30 p. m.: The typhoon seems to have inclined its track more to the W since yesterday, and hence it may become dangerous for the Philippines. Its center is situated this afternoon in about 12° latitude N and between 132° and 133° longitude E, moving apparently to WNW or W by N.

On the 20th the typhoon had a marked influence on the stations of the eastern Visayas and the southeast of Luzon, but seeing on the following day that the fall of the barometers was not more pronounced, though the center of the typhoon appeared to lie still to the E of the Visayas, it was announced as probable that the typhoon was gradually filling up:

November 21, 10 a. m.: The typhoon E of the Visayan Islands seems to be filling up gradually.

On the 20th and 21st the following telegrams were sent to the observatories of Tokio, Zikawei, Taihoku, Hongkong, and Phulien:

November 20, 11.25 a. m.: Typhoon E of the northern Visayas or southeastern Luzon, moving W or WNW.

November 20, 4.45 p. m.: Typhoon E of the northern Visayas or southeastern Luzon, almost stationary.

November 21, 10 a. m.: Typhoon E of the Visayan Islands, filling up.

From the three daily maps of Tokio observatory it would seem that the typhoon had probably divided into two partial centers, and that while the one was filling up to the east of the Philippines, the other recurved northeastward, as may be seen in the track given in Plate XV.

THE TYPHOON OF SAMAR, LEYTE AND PANAY, NOVEMBER 24 AND 25, 1912.

While the previous typhoon was filling up to the E of the Philippines during the afternoon of the 21st, another cyclonic center appeared to the ESE of Yap, Western Carolines, which was to have serious consequences for the Visayan group of islands not yet recovered from the effects of the terrible typhoon of October 15–16 last. As will be seen from the data given below this baguio was worse than the October one, not only because of its greater development and intensity, but also because it preserved its energy and activity for a longer time while crossing the islands of Samar, Leyte, and Panay.

Origin of the typhoon and the first part of its track.—The observations from Guam and Yap appear to show that already on the 20th this typhoon was in process of formation to the ESE of Yap close to meridian 143°E and parallel 7°N. During the afternoon of the 21st, there were indications of a well developed typhoon in the Carolines, and at day-

break of the 22d the vortex could be located to the SSE and not very far from Yap, and moving to WNW or W by N. The Observatory in the ordinary weather report of the same day said:

November 22, 11 a. m.: While the typhoon of the preceding days was filling up yesterday to the east of the Visayas, another typhoon appeared in the afternoon near or over the Western Carolines. Its center is situated early this morning to the south-southeast of Yap, moving apparently to WNW or W by N.

Below is given a table of the observations made in Yap on the 21st, 22d, and 23d. The barometric minimum 749.07 mm. took place at 8 a. m. of the 22d with a whole gale from NNE. The winds, however, soon veered to ENE, ESE and SE. The vortex therefore passed not very far from Yap by the S on the morning of the 22d moving WNW.

OBSERVATIONS MADE AT YAP, WESTERN CAROLINES, NOVEMBER 21 TO 23, 1912.

Date and hour.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.	Date and hour.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.
		Direction.	Force.					Direction.	Force.		
November 21:	*mm.*		*0–12.*		*mm.*	November 22:	*mm.*		*0–12.*		*mm.*
6 a. m	755.47	Calm		o, d		9 a. m	750.41	ENE	9	o, q, d	
2 p. m	54.20	N	1	o	16.5	10 a. m	51.28	ESE	5	o, q, d	
November 22:						Noon	51.91	SE	6	o, q	
2 a. m	52.27	NNW	4	o, q, r		2 p. m	51.92	SE	5	o, q	
4 a. m	51.61	N	3	o, d		4 p. m	53.02	SSE	4	o, q	
5 a. m	51.06	N	5	o, q, d		6 p. m	54	S	3	o	
6 a. m	50.33	NNE	7	o, q		10 p. m	55.72	Calm		o	13.2
7 a: m	49.29	NNE	10	o, q, r		November 23:					
8 a. m	49.07	NNE	10	o, q, r		6 a. m	55.84	E	2	o	
8.30 a. m	49.37	NE	9	o, q, d		2 p. m	55.28	SE	1	o	11.9

The following typhoon warning was issued by the Observatory on the 23d and sent to all the shipping houses of the capital:

November 23, 9.30 a. m.: Typhoon about halfway between Yap, Western Carolines, and the Visayan Islands, moving apparently to W by N.

The typhoon in Samar and Leyte.—In the afternoon of the 23d there was no longer any doubt that the typhoon was following the direction announced by the Observatory and that therefore it threatened to cross the Visayas. As it was necessary to take proper precautions in time, the greatest possible publicity was given to the following typhoon warning:

November 23, 3.50 p. m.: The typhoon is approaching the Philippines and threatens to cross the Visayan Islands by to-morrow.

At a late hour this message was sent by cable to the observer at Catbalogan, capital of Samar:

November 23, 9.35 p. m.: Typhoon approaching Visayas.

From the early morning of the 24th till the night, when the telegraphic lines were interrupted, warnings of more alarming import were repeatedly sent to the provinces which were supposed to be in most danger from the effects of the typhoon. The principal messages sent to the capitals of Samar and Leyte are copied here:

To Catbalogan—

November 24, 7 a. m.: Take precautions, typhoon approaching Samar. Warn municipios.

November 24, 12.45 p m.: Typhoon may cross central part of Samar this evening or to-night. Warn eastern coast against possible cyclonic wave.

November 24, 7.18 p. m.: Typhoon may pass south, although not certain yet.

November 24, 8.22 p. m.: Very probably typhoon will pass *between Catbalogan* and *Tacloban.*

To Tacloban—

November 24, 7 a. m.: Hoist the 4th signal (typhoon dangerous, although not imminent).

November 24, 12.45 p. m.: Typhoon dangerous for Samar and northern Leyte. Will probably pass north of Tacloban to-night.

November 24, 12.55 p. m.: Hoist the 5th signal (typhoon will pass very near to the north).

November 24, 8.20 p. m.: Typhoon will probably pass very near to the north of Tacloban to-night.

After 9 p. m. of the 24th, the telegraphic lines of Samar and Leyte were interrupted, but happily there had been sufficient time to send the most important messages before this happened, for it was shortly after noon of the 24th that the observer at Catbalogan had telegraphed that all the towns of the province had been warned.

The following telegram from the observer at Catbalogan gave the first report as to the intensity of the typhoon in crossing the Island of Samar.

November 25: Typhoon very severe. Center passed south, close to Catbalogan at 1 this morning. Hurricane wind from 10 p. m. to 3 a. m. Severe frequent lightning accompanied the vortex. Hundred houses destroyed here. No serious casualties. All towns and barrios on Maqueda Bay completely destroyed. No communication with any town south or east. Sea entered Taft yesterday at 4 p. m.

From this it is clear that the prognostication of the Observatory that the typhoon would pass to the south of Catbalogan, i. e., between Catbalogan and Tacloban, was verified. A few days after the above telegram the observer at Tacloban sent word that the typhoon had passed by the north of that station and that the barometric minimum had reached 693 mm.

Notices of the destructive effects of the typhoon in the south of Samar and north of Leyte were not long in coming to Manila. Something will be said on this subject later on, after we have described this part of the track of the storm as it may be deduced from the observations made in Borongan, Calbayog, Catbalogan, Tacloban and Ormoc; these observations are given in the following tables:

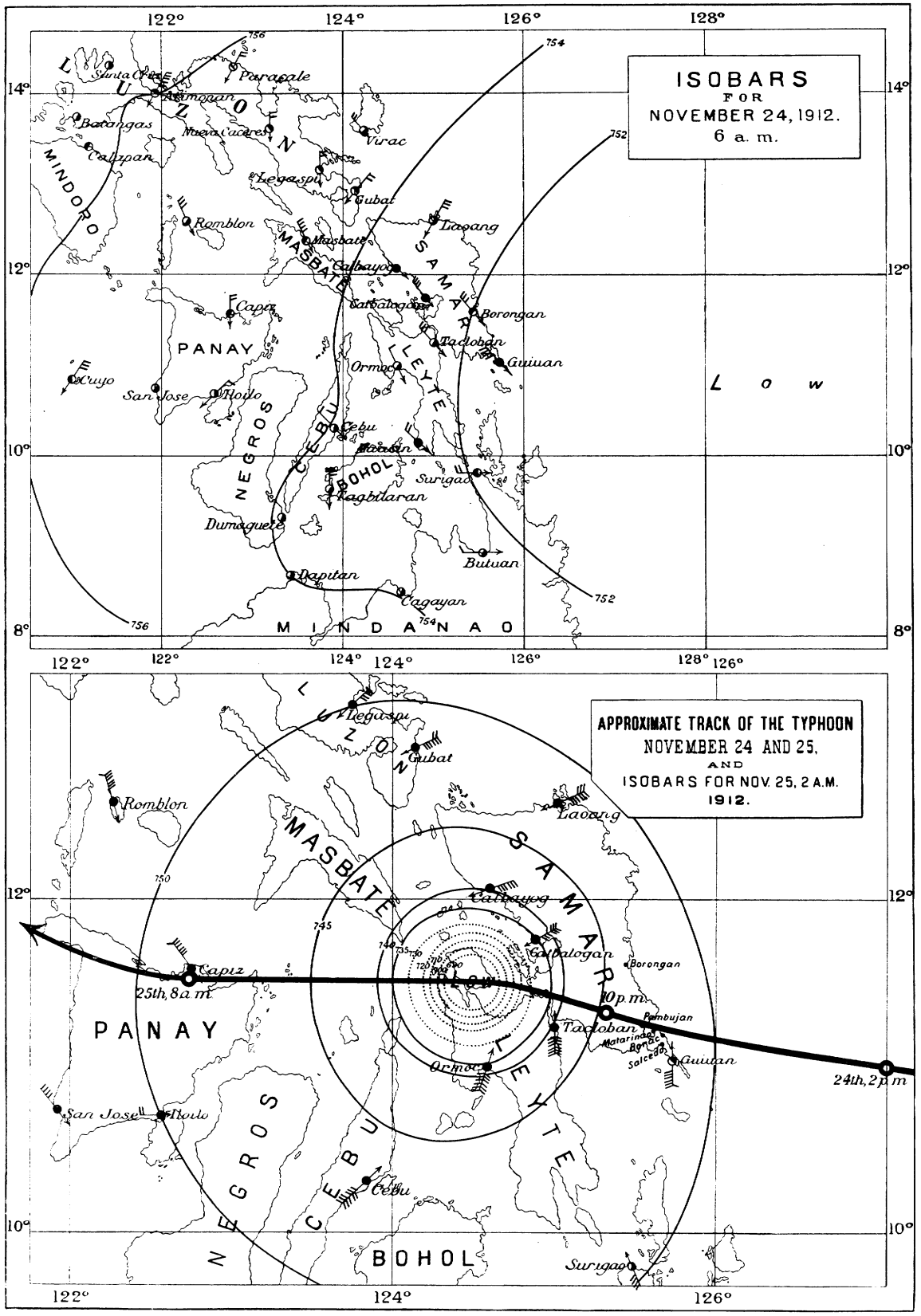
METEOROLOGICAL OBSERVATIONS FOR NOVEMBER 24 AND 25, 1912.

Date and hour.	Borongan.					Catbalogan.					Calbayog.				
	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.
		Direction.	Force.				Direction.	Force.				Direction.	Force.		
November 24:	*mm.*		*0–12.*		*mm.*	*mm.*		*0–12.*		*mm.*	*mm.*		*0–12.*		*mm.*
6 a. m	753.75	NW	3	o, r, t	-------	755.01	NW	1	u, r	[a]11.2	755.02	NW	0	o, r	[b]10.7
2 p. m	50.51	NNE–NE	5	o, q, r	-------	52.08	Calm	-----	o, r	16.8	52.17	N	2	o, r	7.1
6 p. m	46.92	NNW	5	o, q, r	-------	51.53	NtoNNW	2	u	22.1	52.24	NNW	2	o, r	16.5
7 p. m	45.42	NNE	8	o, q	-------	50.87	N	2	u, r	5.1	51.48	N	2	o	-------
7.30 p. m	42.80	NNW	5	o, q, r	-------										
8 p. m	39.92	NNE	10	o, q, l	-------	49.29	N	2	u, r	.5	50.48	NNW	3	o, p	-------
8.30 p. m	36.11	N	11	u, q, r, l	-------										
9 p. m	31.06	NNE	11	o, q, r	-------	47.55	NNE	3	u	19.3	49.22	N	3	o	-------
9.30 p. m	29.99	NE	12	q, r, t, l	-------										
9.45 p. m	29.94	E	12	o, q,	-------										
9.50 p. m	30.35	ESE	12	o' q, r, l	-------										
10 p. m	34.17	ESE	12	o, q, r	311.9	43.55	NE	10	u, q r, t	12.2	48.30	N	3	o. p	21.6
11 p. m	-------	-------	-----	-------	-------	39.05	N-NE	9	u, q,	12.7	46	NNE	3	o	-------
Midnight	-------	-------	-----	-------	-------	33.27	N-NE	10	u, q, l	24.4	44.16	NNE	4	o, q	-------
November 25:	-------	-------	-----	-------	-------										
1 a. m	-------	-------	-----	-------	-------	25.44	NNE–NE	10–12	u, q, r, l	1.5	42.68	NE	6	o, q	-------
2 a. m	-------	-------	-----	-------	-------	-------	NE–ENE	10	u, q, r	.3	43.30	ENE	6	o, q, r	5.1
3 a. m	-------	-------	-----	-------	-------	-------	ENE–E	9	o, q	.3	45.26	E	4	o, q	-------
4 a. m	-------	-------	-----	-------	-------	-------	ENE–E	7–8	o, q	-------	46.48	ESE	4	o, q	-------
5 a. m	-------	-------	-----	-------	-------					-------	49.05	ESE	3	o	-------
6 a. m	53.25	SSE	2	o, r	-------	50.47	E	2	o	-------	50.53	ESE	3	o	-------
2 p. m	54.98	S	3	o	26.2	54.74	SSE	2	o	13.5	53.88	SSE	1	o	-------

[a] Rainfall from 1 a. m. to 6 a. m.

[b] Rainfall from 10 p. m. to 6 a. m.

Plate XVII.



N. B.—The barometric readings have been reduced to standard gravity.

METEOROLOGICAL OBSERVATIONS FOR NOVEMBER 24 AND 25, 1912.

Tacloban.						Ormoc.					
Date and hour.	Pressure.	Wind.		Weather.	Rainfall every 4 hours.	Date and hour.	Pressure.	Wind.		Weather.	Rainfall every 4 hours.
		Direction.	Force.					Direction.	Force.		
November 24:	*mm.*		*0–12.*		*mm.*	November 24:	*mm.*		*0–12.*		*mm.*
2 a. m.	754.59	NNW	4	o, q, d		2 a. m.	755.08	NNW	1	o, d	
6 a. m.	54.39	NW	3	o		6 a. m.	54.74	NNW	1	o, d	2
10 a. m.	54.44	NW	3	o, r	8.1	10 a. m.	55.25	WNW	1	o, d	.5
2 p. m.	51.66	NW	5	o, q, r	19	2 p. m.	52.49	N	1	o, d	7.6
3 p. m.	50.79	NWbyW	5	o, q, r		4 p. m.	51.62	NW	1	o, d	
4 p. m.	50.46	WNW	6	o, q, r		6 p. m.	51.09	NNW	1	o, d	27.9
5 p. m.	49.79	NW	6	o, q, r		8 p. m.	50.29	NNW	2	o, d	
6 p. m.	49.31	WNW	6	o, q, r	10.7	10 p. m.	47.12	WNW	5	u, q, r	25.7
7 p. m.	49.03	WNW	9	o, q, r		11 p. m.	41.54	W	7	o, q, r	
8 p. m.	46.37	WNW	10	o, q, r		11.30 p. m.	38.96	WbyN	8	o, q, r	
9 p. m.	43.88	WNW	11	o, q, r		11.45 p. m.	37.56	WNW	10	q, r, l, t	
10 p. m.	36.16	NW	9	o, q, r	(a)	Midnight	36.32	W	11	q, r, l, t	
10.15 p. m.	33.50	WNW	10	o, q, r		November 25:					
10.30 p. m.	24.92	NW	12	o, q, r		12.15 a. m.	34.24	SW	12	q, r, l, t	
10.45 p. m.	21.84	WNW	12	o, q, r		12.30 a. m.	35.07	SW	12	o, q, r	
11 p. m.	13.88	W	12	q, r, l		12.45 a. m.	34.59	SW	12	o, q. r	
11.05 p. m.	01.47	W	10	q, r, l		1 a. m.	33.88	SW	12	o, q	[b]43.9
11.10 p. m.	699.72	W	12	q, r, l		1.15 a. m.	35.76	SW	12	o, q	
11.15 p. m.	93.08	W	8	q, d, l		1.30 a. m.	36.61	SW	12	o, q	
11.20 p. m.	97.65	W	3	o, d, l		2 a. m.	37.82	SSW	12	o, q	
11.25 p. m.	99.54	WSW	2	o, d, l		3 a. m.	44.60	SE	12	o, q	
11.30 p. m.	99.54	WSW	2	o, d		4 a. m.	47.03	SE	8	o, q	
11.40 p. m.	99.99	Calm		o, d, l		5 a. m.	49.23	SEbyS	7	o, q	
11.50 p. m.	701.14	Calm		o		6 a. m.	50.41	SE	3	o	
Midnight	02.41	Calm		o, l		10 a. m.	54.56	SE	2	o	
November 25:						2 p. m.	54.63	SE	1	c	
12.15 a. m.	16.85	SW	2	o, d		6 p. m.	55.87	SE	1	c	
12.30 a. m.	25.42	SSW	12	r, q, l		10 p. m.	57.07	SE	1	c	
1 a. m.	35.68	S	12	q, r, l							
2 a. m.	43.46	S	12	q, r, t, l							
4 a. m.	49.12	SSE	5	o, q, r							
6 a. m.	52.13	SSE	8	o, q, r							
8 a. m.	54.01	SE	3	o							
10 a. m.	55.28	SE	3	o	[c]2.5						
2 p. m.	54.97	ESE	2	o							
6 p. m.	56.64	SE	2	o							

[a] After 6 p. m. the raingauge could not be observed.
[b] This amount was deduced from recording instrument as the raingauge was blown over by hurricane winds shortly after 1 a. m.
[c] Rainfall from 6 a. m.

In Plate XXI are reproduced the barometric curves of Guiuan, Borongan, Catbalogan, and Tacloban. In Guiuan, the winds that caused most damage were from the W and SW. It has been impossible to complete the curve from that station, because the pen reached the limit of the instrument and no direct observations were taken in the neighborhood of the vortex in that place. At Tacloban on the other hand, the observer, Sr. Perfecto Paulino, with most praiseworthy diligence continued to take barometric observations at intervals of five minutes, so that the curve at that station can be completed as far as the minimum 693.08 millimeters at 11.15 p. m. of the 24th.

The general character of the curve of Guiuan would seem to indicate that the barometric minimum at that station must have been very like that at Tacloban. With regard to this minimum it may be well to mention that only on three occasions has a minimum of less than 700 millimeters been observed in the Philippines: One of 693.98 millimeters in Tanawan, Leyte, October 12, 1897, another of 690.12 millimeters obtained on board the steamer *Pathfinder* close to the northeast coast of Samar (12° 10′ 35″ lat. N, 125° 31′ long. E.) on September 25, 1905, and the third of 698 millimeters registered at Borongan, east coast of Samar, on September 23, 1908. A fourth may be added, viz, the minimum which occurred at Santo Domingo, Batan Islands, during the typhoon of August 26, 1911, though what this minimum actually was cannot be given exactly, for it was not observed on the mercurial barometer: but judging from the curve of the Richard barograph, very similar to that obtained at Guiuan in the present case, it was certainly below 700 millimeters, and perhaps even below 690 millimeters.[1]

[1] See the "Monthly Bulletin" of the Weather Bureau for August, 1911, p. 270.

A careful examination of the observations and curves mentioned above makes it clear (1) that the center of the typhoon passed by the north of Guiuan and Tacloban at a distance of about 10 miles from each station; (2) that the center passed by the south of Catbalogan at a minimum distance of 16 or 17 miles; (3) that while the typhoon was crossing Samar its direction was WNW; (4) that when it had once left Samar it headed exactly W, which will be fully confirmed later by the observations from Capiz.

In Guiuan the vortical calm was not observed, but it was noted in Salcedo, Matarinao, Borac and Pambujan, as is learned from several letters which will be copied further on. All these towns are to the north and at a short distance of Guiuan.

Before proceeding with the discussion of the track of this typhoon we will copy here extracts from the various reports received with regard to the passage of the typhoon over Samar and Leyte.

The observer of Guiuan, writing on November 27, says:

At 8 o'clock on the night of the 24th, a destructive typhoon broke over this locality with winds from the NW and W which reached the maximum force of 12, and at the same time a most terrific display of lightning took place and the sea reached a height of a 1½ meters in the town.

There was great destruction of houses of both strong and light materials. The church and convent were unroofed: 19 persons were drowned in the barrios, but in the town itself there were no fatalities. A great number of cocoanut palms were uprooted and blown over. * * *

Fr. Juan José Fernandez forwarded the following details from Salcedo:

In the afternoon of the 22d I set out for a barrio on the Pacific coast called Borac. It is to the south of Matarinao Point at a distance of about 9 kilometers. On arriving at the barrio I went to the seashore to look at the sea which was exceedingly rough. I asked some of the people of the place if there had been a low tide, and they told me that since yesterday the tide had not ebbed, and added that there had been *doloc*, which was the precursory wave of the storm that was approaching. During these days the wind had been from the north, the clouds black, and the sunsets red. On the morning of the 23d, there was low tide, but by the evening the water was very high, the waves almost reaching the cocoanut plantations; at nightfall the clouds were very heavy and red; the wind now came from the NE. The 24th dawned with heavy rain and thunder, the wind coming from the northeast with greater force, and the sea increasing. I sent a messenger to the town to bring my barometer, which was put in my hands at 2.30 p. m., and at this hour the needle was marking 749 mm. Fearing that the sea would surprise me during the night I went up a little hill some 30 meters above the level of the sea. There I found a low hut and in it I passed the night of the 24th with some others who followed me. At 9 p. m. the barometer read 730 mm., the wind was very strong and constant from the northeast; in fact, the wind and rain were so strong that we had to remain without light and fire. And thus in the dark, only being able to see by the light of the flashes of lightning which appeared like flashes of flame, the wind and rain becoming every minute more violent, we began to think that the wind would blow us down the hill. The vortex reached us at 9.50 Manila time. Taking advantage of the calm and light which lasted about ten minutes, I looked at the barometer and I found that the needle was pointing to the place where the minute hand of a watch would mark twenty-three minutes to the hour (695 mm. ?).[1] After the vortex had passed, the wind blew from the south, at first in very violent gusts, but it gradually calmed till by midnight it was quite calm. About two-thirds of the cocoanut palms were destroyed, some of them having their trunks broken off in the middle, others uprooted. When I got back to Salcedo I found all the houses overturned, the sea water having reached in the town the height of 1½ meters. The town is at a distance of 700 meters from the sea, but is not much above the level of the sea, at the foot of a mangrove plantation. The strongest winds felt in the town were from the southwest. In the town and neigboring barrios eight persons were drowned, besides great numbers of cows, horses, pigs, and goats. On the 26th I met the lieutenant of Constabulary from Pambujan Sur, and he told me that Pambujan was destroyed. The calm was observed in the town before 10 p. m. * * *

A very interesting letter was received from the observer at Borongan Fr. Cesareo Montes, which shows how well all the precursory signs of a typhoon were observed in that town:

The noise of the swell caused by the typhoon of November 18–21, which filled up to the NE of

[1] As the scale of the barometer did not go further than 700 mm., this was a very ingenious way of correctly reading the barometer.

Samar, had scarcely died away, when on the night of the 22d, at a time when it is easy to recognize the first slight murmur of the swell caused by typhoons in the Pacific the noise of the swell coming from the ESE was heard again, thus giving notice of another typhoon. This was the first sign of the typhoon which two days later was to visit us.

At 6 a. m. of the 23d the barometer continued to fall moderately, and the swell, still from the ESE, became stronger as the storm approached the Archipelago. At 8 a. m. there was a convergence of cirrus and bands of cirro-stratus to the ESE, after which the sky became covered with a cirrus veil.

During the afternoon and night other precursory signs were observed: Coloration of the clouds at sunset and a fairly well-pronounced lunar halo. The barometer, without losing its oscillation, continued to fall during the night.

At 10 a. m. of the 24th a telegram was received from the Central Observatory, fixing more precisely the progress of the typhoon. The Observatory said: "Typhoon to the E of the Visayas, moving to the W or WNW." From this and from the later telegram at 2 p. m. ordering the seventh signal to be hoisted, the authorities were advised of the approach of the typhoon, and criers were sent round to warn the people.

Three persons were crushed to death by a cocoanut palm falling on the house in which they were: but otherwise the damage done was not so great in the town, a few houses blown over and some warehouses unroofed. A fair number of cocoanut palms were blown down in the north, but this was due not so much to the force of the winds as to roots being loosened by the large amount of rain that fell during the two days preceding the typhoon, so that when the hurricane winds blew, they were easily torn up. In the south the effects of the typhoon were disastrous, the greater part of the cocoanuts being broken off in the middle. The houses are nothing but a heap of ruins.

Dr. Cullen sent us also a report of the sanitary inspector of Guiuan which gives the following details of the effects of the typhoon in Guiuan and Salcedo:

I have the honor to inform you that on the 24th of November last a detructive typhoon broke over this locality, which has occasioned the loss of not only many houses and crops, but also of a few lives.

In Guiuan.—From early morning of November 24, the weather gave signs of the existence of a typhoon, and according to the notice from the Central Observatory, it was to the east of the Visayas, moving to W or WNW. At 6 a. m. the barometer was at 752 millimeters with winds, which at times were squally, from NW, NNW. The barometer continued to fall during the whole day, the winds remaining squally from the same directions. At 2 p. m. the barometer read 747 millimeters, at 6 p. m. 741 millimeters, and at 7 p. m. 736 millimeters. From this hour it began to fall so rapidly that at 9 p. m. it marked 710 millimeters with constant violent winds from the NW, NNW and then the winds began to back to the W, when they acquired their maximum intensity (force 12). This state of things lasted for an hour, after which the barometer rose rapidly. It was during the hour of greatest force of the winds that the buildings and plantations were destroyed, and the water rose till it reached a depth of a meter and a half in front of the municipal building, while in some of the barrios such as Alingaroc, Songan, Bobon, and the west part of Tubabao it was more than 20 feet deep.

Destruction—Buildings.—All the buildings of light and mixed materials have suffered considerable damage; some have been totally destroyed; the great majority remaining without roof and walls. Some 350 houses were destroyed in the town alone. The buildings of strong materials that have suffered most are the city hall, the church and convent. The warehouses and houses of the Chinese merchants and of the Compañía Tabacalera scarcely suffered at all. The barrios situated to N and NW of the town, viz, the Island of Tubabao, Alingaroc, Songan, Bobon, and Mercedes, are the ones that have suffered most as practically every building has been destroyed, and several lives were lost owing to the rising of the water.

Plantations.—In some parts, especially in the proximity of hills, two-thirds of the cocoanut plantations were lost; in some places, however, the losses do not amount to more than a quarter.

Fatalities.—Twenty persons dead, 3 disappeared, 3 wounded, and 1 bruised is the list of personal victims of the typhoon. Of the 20 dead, 18 were drowned and 2 crushed to death by the falling of houses. It is supposed that the 3 who disappeared were swept away by the rushing waters and drowned. The barrio of Alingaroc had the greatest number of victims, as 11 persons were drowned in the barrio. The lieutenant and his deputy were the greatest sufferers, as the former lost his wife and 4 children, the 2 eldest being 18 and 14 years old, respectively, while the latter lost his 4 sons. All these were drowned owing to the water reaching the roofs of their houses. In Songan, 3 children were drowned, all from the same family. In Bobon 2 children were drowned and 1 disappeared. In

Buyayaon 2 children disappeared. In Tubabao, a woman drowned and a child crushed by a falling house. In Mercedes an old man was crushed by the falling of his house. In Lopoc a child, a few days old, was drowned. The other injuries were slight.

In Salcedo.—The typhoon was most severe in this town. According to the parish priest the barometer fell to less than 710 millimeters. The damage done was very considerable. Almost all the houses were destroyed, and there is not a single house that has not suffered a good deal; 80 per cent of the cocoanut plantations were destroyed. The fatalities are: In the town, 1 child drowned; in the barrio of Buabua, 8 of one family drowned; in Bagton, 3 of one family crushed by a falling house. The animals dead: 9 cows, 2 horses and 1 carabao; many goats and pigs. The water rose 2 meters in the town in the low-lying places and 1 meter in the higher parts. It is thought that the vortex passed by the barrios of Borac and Matarinao, for before the shifting of the wind there was a calm.

I might also say that during the typhoon the lightning was almost continual.

Dr. Cullen himself, chief sanitary inspector of the district and a voluntary observer of the Weather Bureau in Catbalogan, also sent us complete statistics of the effects of the typhoon in the towns along the south and east coasts of Samar. According to these statistics there were 97 fatalities distributed among the various towns as follows: Balangiga and Guiuan, 24 in each town; Basey, 15; Pambujan Sur, 13; Salcedo, 12; Villareal, 4; Borongan, 4; Llorente, 1.

Dr. Cullen finishes his report with this summary on the damage caused by the typhoon:

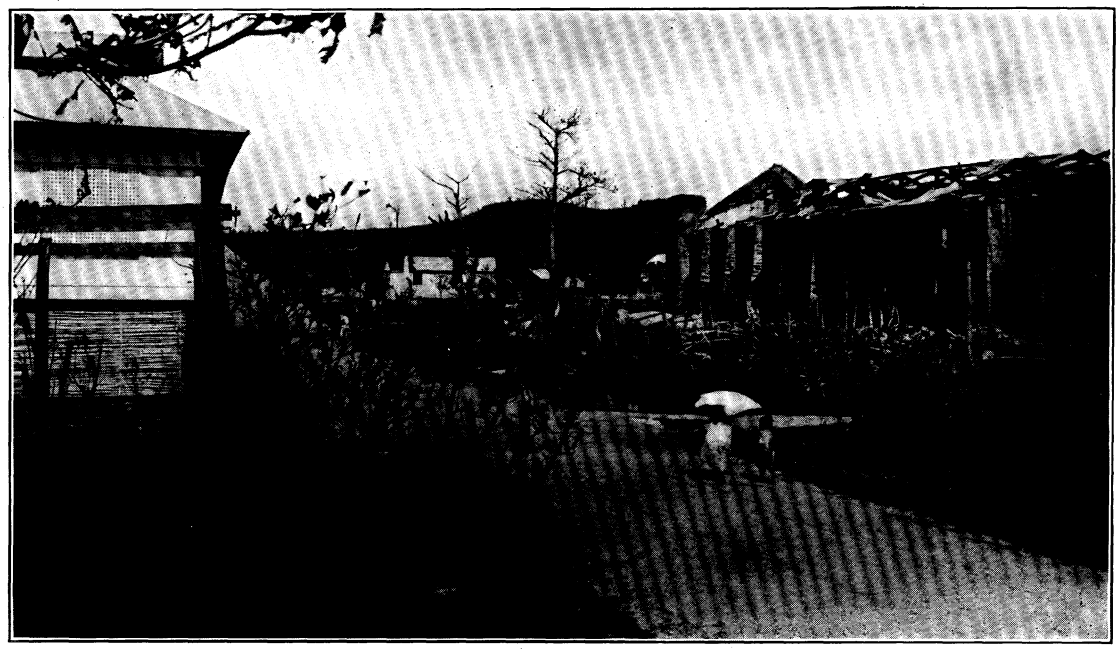
In addition to the above, practically all the churches, schools, and municipal buildings were destroyed in the southern half of the province. In Basey the damage to church and convent is ₱15,000. In the barrio of San Pedro, town of Santa Rita, the sea was 7 meters deep in the center of the town. A large parao was swamped by the high seas between Calbayog and Santo Niño with all lives lost as well as cargo. It was bound for Masbate. The barometer at Llorente registered 700 millimeters. In the town of Hernani there was only one house left and in Villa Real only three. The provincial steamer *Mayo* was driven ashore in Quinapundan Bay where it had gone for shelter. The seas washed over the top of the vessel and it was carried about 300 yards inland on top of a 30 foot tidal wave, landing it among the trees. In a number of the coast barrios the sea passed over the tops of the nipa houses drowning many more than known.

What Dr. Cullen says with regard to the southern half of Samar may also be said of the northern half of Leyte. The observer at Tacloban, Sr. Perfecto Paulino, describes the fury of the storm in these terms:

The force of the typhoon that passed near this town is altogether indescribable. It may be said that Tacloban was completely destroyed; for on all sides nothing is to be seen but ruined houses—some on the ground, others out of plumb, so that it is scarcely possible to find a building, even those of strong materials, that has not suffered. The storm caused not only the loss of houses, vessels, lorchas, etc., but also loss of life; but of this I will speak later.

From the early morning of the 24th the fall of the barometer was alarming, the appearance of the sky was threatening, and the winds from the NW quadrant were fresh and did not abate for a moment. Black clouds scurried across the sky rapidly from the N. In the afternoon the barometer continued to fall and the winds became strong and even violent and as night came on the storm broke with great fury, the barometer falling so rapidly that it seemed as if there was a hole in the cistern and that the mercury would disappear altogether. The absolute minimum of the mercurial barometer was 693.08 millimeters at 11.15 p. m., when there was frequent lightning with winds from the W till they weakened and then backed to the WSW. From 11.40 p. m. till midnight the WSW wind suddenly ceased and the sky cleared, after which it began to blow from the SSW and in twenty minutes the storm was more furious than it had been before the minimum, the winds gradually backing to S, SSE, SE.

The principal effects of the typhoon in Tacloban are as follow: The steamer *Sontua* and the launch *Caridad* aground; steamers *Monserrat* and *Holpas* and many lorchas and smaller craft, wrecked; 12 deaths among the crews of the different lorchas; the church, public school, high school, municipal building, and the other buildings of strong materials unroofed completely; the convent and the presidencia razed to the ground; the piers and wharfs destroyed; the warehouses of abaca, rice, and copra destroyed as well as the public jail. Very few of the houses of mixed and light materials are left standing. The loss is put down at ₱1,250,000. The sea water rose to the height of 1 meter in the high parts of the town and to 2 meters in the low-lying parts.

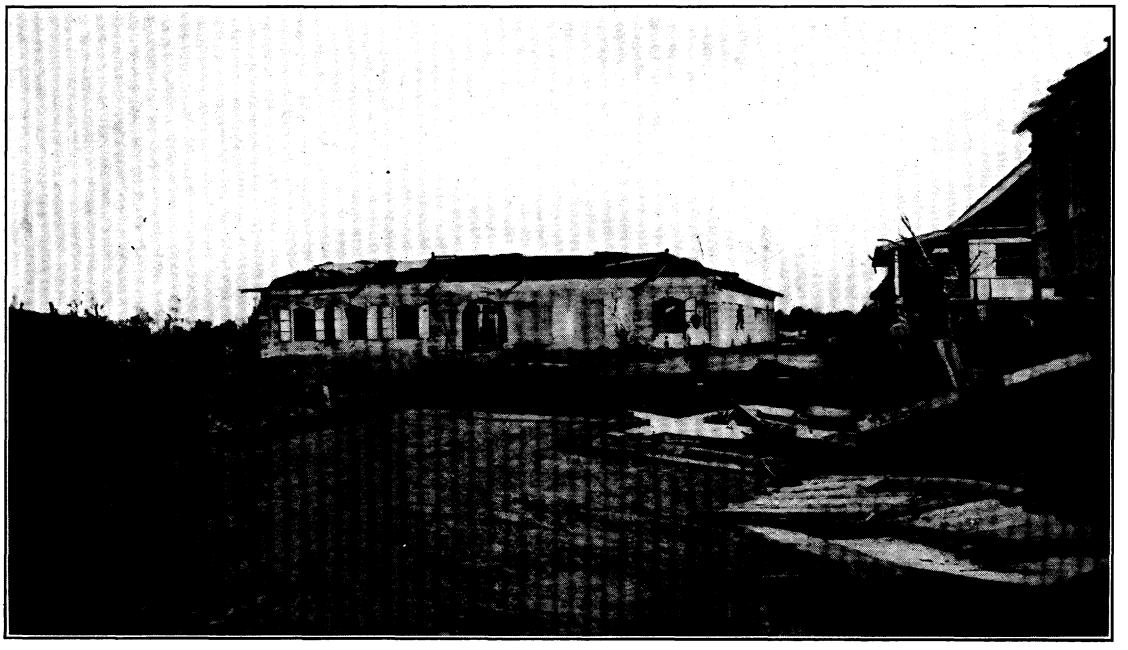


Church, Tacloban.

Water front, Tacloban.

EFFECTS OF THE TYPHOON IN LEYTE, NOVEMBER 24 TO 25.

Provincial Building, Tacloban.



Provincial jail, Tacloban.

EFFECTS OF THE TYPHOON IN LEYTE, NOVEMBER 24 TO 25.

Convent, Palo.

Sontua and Limpanco Building, Tacloban.

EFFECTS OF THE TYPHOON IN LEYTE, NOVEMBER 24 TO 25.

In the same report of the observer of Tacloban 18 deaths are counted, distributed among the different towns as follows:

Alangalang, 9; Barugo, 4; Abujog, 2; Babatgon; 1; Jaro, 1; Dagami, 1; if to these we add the 12 in Tacloban, we have a total of 30 fatalities in all.

It is to be feared, however, that the casualties were more numerous, for the statistics obtained for us by the observer at Tacloban, with reference to the towns of Leyte, are not so complete as those sent by Dr. Cullen with regard to Samar.

We have not been able to obtain photographs of the towns of Samar after the typhoon, but some of the towns of Leyte were obtained for us by Dr. Cullen and the observer at Tacloban. A few of these are reproduced in Plates XVIII, XIX and XX.

The typhoon in Panay.—Below are given the observations made in Capiz on November 24 and 25. From them it will be seen that the center of the typhoon touched the south of the town, and hence it follows that the direction of the track must have been due west from the time it left the Island of Samar till it reached Capiz. This part of the track across the Visayas may be seen in the lower part of Plate XVII. The barometric minimum, 726 millimeters, took place at Capiz at 8 a. m. From 7.30 a. m. the wind was gradually weakening at the same time that it veered from NE to E. The calm lasted from 7.55 till 8.40 a. m., during which time the sky cleared somewhat. At 8.40 a. m. the wind blew from the SE with more violence than before the calm. It will be seen from these data that, although the typhoon was still well developed, it had already diminished in intensity, compared with the barometric minimum when the vortex passed Tacloban.

METEOROLOGICAL OBSERVATIONS AT CAPIZ, PANAY ISLAND, FOR NOVEMBER 24 AND 25, 1912.

Date and hour.	Pressure.	Wind.		Weather.	Rainfall.	Date and hour.	Pressure.	Wind.		Weather.	Rainfall.
		Direction.	Force.					Direction.	Force.		
November 24:	*mm.*		*0–12.*		*mm.*	November 25:	*mm.*		*0–12.*		*mm.*
2 a. m	756.44	N	2	o		5 a. m	745.10	NW	9	o, q, r	8.6
6 a. m	56.48	N	2	o		6 a. m	41.55	NNE	10	o, q, r	8.1
10 a. m	56.66	N	3	o		7 a. m	36	NE	10	o, q, r	8.9
2 p. m	55.33	N	3	o, d	0.3	7.30 a. m		NE	5		
6 p. m	55.04	N	4	o	.5	7.40 a. m		E			
10 p. m	54.98	N	5	o, q, r	10.7	8 a. m	26	NE	1	o	5.1
11 p. m	54.10	NW	5	o, q, r	1	8.05 a. m		Calm			
Midnight	53.21	NW	6	o, q, r	4.8	8.40 a. m		SE	10–11	o, q, r	
November 25:						10 a. m	39.50	SE	11	o, q, r	
1 a. m	51.75	NW	7	o, q, r	5.6	Noon	49.5	SSE	2		
2 a. m	50.26	NW	7	o, q, r	6.1	2 p. m	50.80	SSE	2	o	[a]81.3
3 a. m	48.77	NW	8	o, q, r	8.4	6 p. m	54.29	SE	1	c	
4 a. m	48.10	NW	8	o, q, r	9.1	10 p. m	56.99	Calm		c	

[a] Rainfall from 8 a. m. to 2 p. m.

The Capiz observer gives an account of the intensity and effects of the typhoon in that province in the following terms:

According to many people here, the typhoon which has just passed is one of the most destructive that has occurred within living memory. In the capital of Capiz all the houses have suffered more or less severely; some had the walls blown away, others the roofs, while others were completely destroyed.

The high school, the casa municipal, the public schools, and parish church have all been partially unroofed, though the jail and the provincial building remained intact.

In Capiz itself the number of strong buildings that suffered is 63, and 353 buildings of light and mixed material were destroyed. The general damage is said to amount to ₱100,000.

In the rest of the province with the exception of the subprovince of Romblon almost all the houses have been destroyed.

The rice warehouses were either blown over or damaged in some way or other, so that the little rice that was saved after the inundations of the typhoon of October 16, has been damaged, while the plants left in the ground were totally destroyed.

In some of the towns the sea rose a full meter more than usual on the shore. The most important rivers of the province, the Panay and Aclan, overflowed their banks, causing floods.

According to reports, not yet officially confirmed, the number of lives lost does not reach ten. After the typhoon the shores in the towns of Panay and Capiz were strewn with trees of all kinds and sizes, which is something never seen before in this province.

The Province of Iloilo also, especially the north part of it, suffered considerably from the effects of the typhoon. According to the official statistics obtained from all the towns with the exception of Sara, the damage done to buildings, roads, crops, etc., amounts to ₱1,548.374. The observer at Iloilo describes thus the intensity and effects of the typhoon in that city:

The storm reached us before midnight of the 24th. The barometers had been falling in an alarming manner from 10.30 p. m. of the 24th, and at 6 a. m. of the 25th they stood at 747.57 millimeters with a tendency to fall more and with winds from SW.

The barometric minimum took place at 7 a. m., and was 746.96 millimeters with winds from SW. The winds after the minimum were very violent reaching force 10 or 11. Sheets of zinc were torn from the houses of strong materials while those of light materials were destroyed. The number of these latter houses destroyed in Iloilo is some 300, and 27 houses of strong material were unroofed.

Further course of the typhoon.—After leaving Capiz the typhoon inclined a good deal to the north so that while in the China Sea during the night of the 25th–26th it was moving almost to the NW. On the afternoon of the 26th it again turned to the W, and then filled up on the 27th in the neighborhood of the southern part of the Paracels.

Typhoon warnings exchanged between Hongkong and Manila.—The Observatory of Manila sent the following warnings with regard to this typhoon to the meteorological observatories of the Far East:

November 22, 7.40 a. m.: Typhoon near or over Yap, moving W or WNW.
November 22, 6 p. m.: Typhoon NE of the Pelew Islands, moving WNW.
November 23, 8.30 a. m.: Typhoon over the Pacific Ocean, about halfway between the Philippines and the Carolines, moving W or WNW.
November 24, 7.20 a. m.: Typhoon E of the Visayan Islands, moving W or WNW.
November 25, 8 a. m.: Typhoon between the Visayas and Luzon, moving W or WNW.
November 25, 3 p. m.: Typhoon near or over Mindoro, moving W or WNW.
November 26, 9.10 a. m.: Typhoon W of Manila, more than 100 miles distant, moving WNW or NW.
November 26, 3.15 p. m.: Typhoon in about 115° long. E and 14° lat. N. moving WNW.

The observatory of Hongkong favored us with these cablegrams:

November 25, 11.10 a. m.: Typhoon S of Luzon, moving WNW.
November 26, 10.55 a. m.: Typhoon W of Manila, moving WNW.

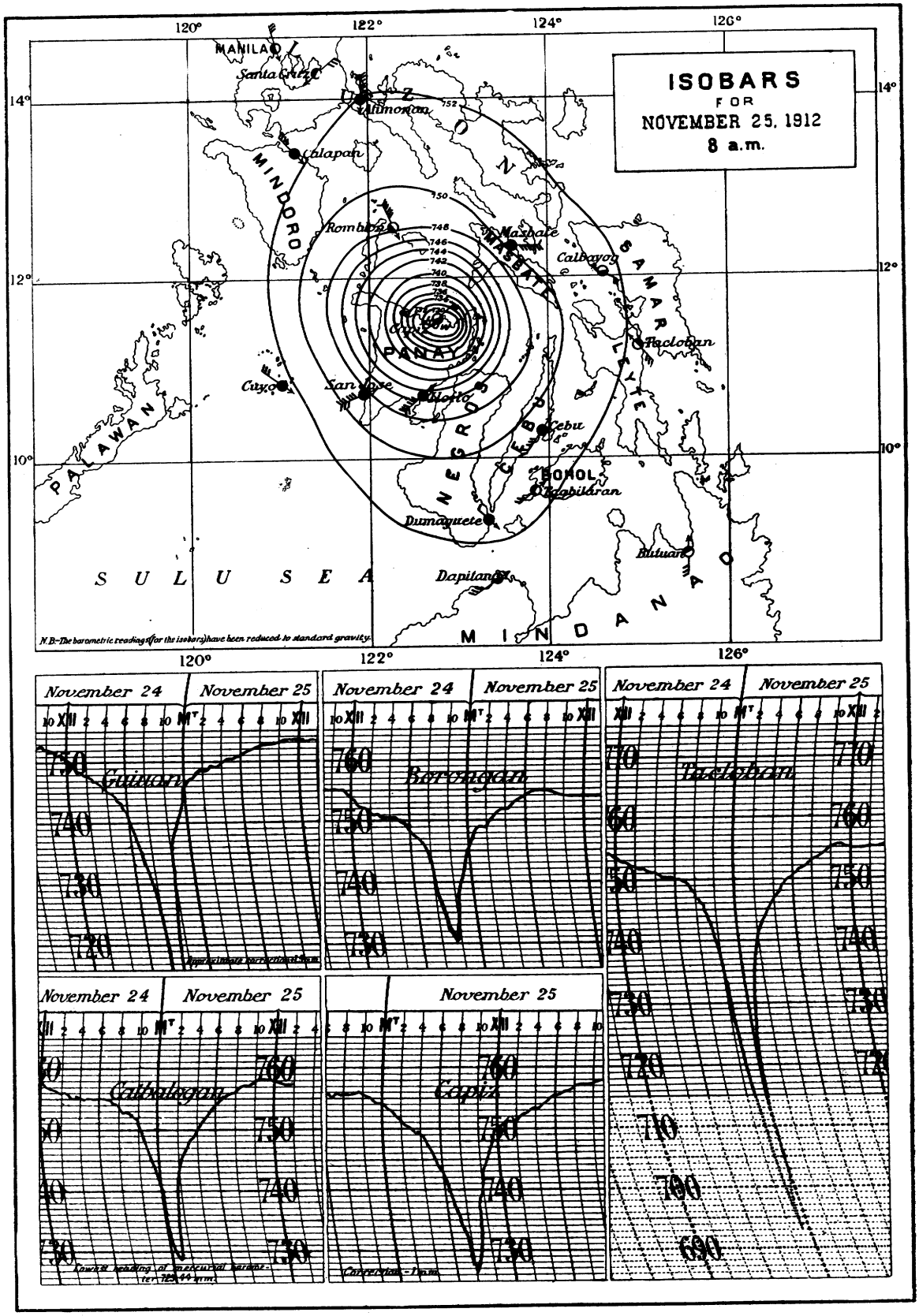
The observatory of Zikawei also announced this typhoon to the stations of the China coast by means of the following telegrams:

November 22, 9.20 a. m.: Typhoon S to W of Yap, direction WNW.
November 22, 3.15 p. m.: Typhoon N to W of Yap, within 240 miles, direction NW.
November 22, 9 p. m.: Typhoon N to W of Yap, beyond 240 miles, direction NW.
November 23, noon: Typhoon far east of Philippines, direction NW.
November 23, 9 p. m.: Typhoon SE of Luzon, direction NW.
November 25, 10 a. m.: Typhoon S of Luzon, direction WNW.
November 26, noon: Typhoon SW of Luzon, direction NW.
November 27, noon: Typhoon, center of Paracels, direction NW.
November 28, noon: Typhoon, paracels to Hainan, direction NW.

Some remarks on this typhoon.—Before finishing the discussion of this typhoon which left such disaster in its trail throughout the Visayan Islands, we will make a few remarks on the principal characteristics of the storm, comparing them as far as possible with those of the typhoon of October 15.

In the first place, the vortex of this typhoon was more developed than the one of October 15, and hence the violence of the hurricane winds was naturally greater throughout the whole of the destructive zone. On the other hand this typhoon was

Plate XXI.



ISOBARS AND BAROGRAPHIC RECORDS—TYPHOON OF NOVEMBER 20 TO 28, 1912.

relatively dry whereas the October typhoon was remarkable for the torrential rains which accompanied it all along its track across the Visayas. It was doubtless owing to this favourable circumstance that the casualties during this typhoon were much less than was at first feared.

In the second place the rate of progress with which the storm moved across the Philippines was more than usual, being approximately double that of the October typhoon. Two points of the track, determined by means of the barographic curves of Tacloban and Capiz have been taken for the purpose of determining this velocity or rate of progress.

The vortex passed over Tacloban at 11h 15m p. m. of the 24th, and over Capiz at 8h 05m of the 25th, and hence it took 8h 50m to traverse the distance between Tacloban and Capiz, and as this distance is 135 miles we have a mean velocity of 15.3 nautical miles per hour. During the first part of the track, that is, between the Western Carolines and the Philippines, we find an approximate velocity of 12.5 miles per hour.

Finally it may be asked, did a cyclonic wave with disastrous effects, especially for the eastern coasts of Samar and Leyte, accompany this typhoon when it penetrated into the Philippines? Our readers will no doubt remember what was said on this subject in last month's BULLETIN in speaking of the typhoon of October 15. Fortunately we are able to say that in the present case also, the cyclonic wave was of slight importance notwithstanding the fact that this typhoon was so well developed when it entered the Islands. Although we had already formed our opinion on the subject, still we wished to know the opinion of those on the spot, especially in the coast towns of Samar which are more exposed to the effects of these waves. We cabled therefore to our observer at Borongan, Rev. Cesareo Montes, from whom we received the following interesting letter, which we copy almost entire for the benefit of our readers:

In reply to your cablegram I am sending you a few notes on what was observed on the night of November 24. I am of the opinion that the rise of water on the coast of Samar was influenced more by the force of the winds than by a cyclonic wave.

The rise of the water on the night of November 24, coincided with the rise and fall of the ordinary tides, and as it was the day before full noon, the tide would naturally be higher than at new moon. On that day the high tide ought to have been at 6h 30m p. m., but the water continued to rise as the winds increased in force and changed from N to NE, E and ESE. The wind blew from the ESE at the time the vortex was already within the island, and the gusts were exceedingly violent and their force indescribable, much greater than when the winds from the northeast quadrant were blowing. Yet when the winds from the southeast quadrant became constant, the water being sheltered from the force of the wind, began to fall at once.

The greatest height of the water was 1.7 meters above the level of high tide.

Another reason why I think that the rise of water was not due to a cyclonic wave is, that though I have observed on several occasions that when the rise of the water is due to the effects of a cyclonic wave it comes with a rush, then remains for some time at a great height and falls again suddenly, this time the water rose slowly till it reached its maximum height.

I may also add as some sort of confirmation of what I have said above, that when in 1897 the town of Hernani was so badly damaged by the celebrated cyclonic wave of that year, the water then rose to the height of seven meters and remained so for three hours, thus burying hundreds of people in the town. This time, however, it was quite different, although the center of the vortex passed closer and the winds blew with greater force than during the 1897 typhoon. On this occasion the rise of the water was gradual, not so suddenly as in 97 nor so high (only 2.5 meters). As soon as the vortical calm was noticed and as the winds had changed to the SE, then at once the water began to fall.

THE MINDANAO TYPHOON, NOVEMBER 28, 1912.

The Observatory said the following concerning this typhoon in a note published in the papers of the capital during the afternoon of the 29th:

November 29, 4.30 p. m.: Although there is no communication as yet with the southern Visayas and Mindanao since the typhoon of the 25th, it would seem that the present typhoon has been moving

with rather an extraordinary rate of progress from the time it appeared on the Western Carolines last Monday. All the indications are that either the central or southern part of Mindanao, and the southern part of Palawan Island have been in the track of the storm.

On several occasions the Observatory indicated that this typhoon of Mindanao appeared to be one of great intensity, and the reports we have since received, so far confirm our fears that the inhabitants of the towns on the eastern coast of Mindanao near which the center passed, state that they do not remember to have experienced a typhoon so severe. As we shall see later, the track of the storm cut the central part of Mindanao, so that the greatest violence of the typhoon was felt in that part of the Island which we may call of least importance and is the most cut off from communication with the rest of the Archipelago. And thus, though the newspapers made much of the predictions of the Observatory, still little has been heard of the effects of the storm in Mindanao. As a matter of fact, it was about a month after the storm when the Observatory was able to fix with precision the point at which the vortex entered the Island. It must also be added that owing to the great breadth of the Island of Mindanao, the typhoon had already lost a great deal of its intensity when it reached the more important parts which are in easy communication with Manila, such as the district of Lanao and the Province of Misamis.

Origin of the typhoon.—This was the fourth typhoon during November that had been formed in the Western Carolines, so that it could be announced more than two days ahead of time, notwithstanding its extraordinary rate of progress, and in spite of the fact that the Observatory had been cut off from all communication with the Visayas and Mindanao since the typhoon of the 24th–25th. It was in the afternoon of the 25th, at the time when a message had been sent to the Observatories of the Far East situating the Tacloban typhoon in the neighborhood of Mindoro, that the existence of a new storm in the Western Carolines was announced in the following cablegram:

November 25, 3 p. m.: Typhoon near or over the Western Carolines, direction unknown.

The observations received from Yap and Guam left no doubt as to the existence of a new typhoon situated to the ESE of Yap and SSW of Guam in about 143° Long. E and 7° 20′ Lat. N.

In the ordinary weather report of the 26th it was stated:

November 26, 11.25 a. m.: A new typhoon appeared yesterday afternoon near or over the Western Carolines to the eastsoutheast of Yap; it is moving at present to W by N.

The typhoon in the Pelew Islands.—During the afternoon of the 26th and morning of the 27th these typhoon warnings were sent to the meteorological observatories of the Far East:

November 26, 3.45 p. m.: Typhoon near or over Yap, moving W.
November 27, 7.20 a. m.: Typhoon near or over Pelew Islands, moving W.

And in the early morning of the 27th this message was sent to the shipping firms of Manila:

November 27, 7.45 a. m.: There is a typhoon in about 7° or 8° latitude N and 134° or 135° longitude E moving apparently W towards Mindanao.

Later notices confirmed these warnings of the Observatory with respect to these two points: (1) that the typhoon moved from the Carolines toward the west, and (2) that the vortex crossed or passed very close to the Pelew Islands. Observations made in those Islands were obtained for us by our observer in Yap, Sr. Prudencio Urbiztondo, and we give them below together with those made in Yap.

METEOROLOGICAL OBSERVATIONS FOR NOVEMBER 25 TO 27, 1912.

Yap, Western Carolines.						Pelew Islands.			
Date and hour.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.	Date and hour.	Pressure.	Wind.	
		Direction.	Force.					Direction.	Force.
	mm.		*0–12.*		*mm.*		*mm.*		*0–12.*
November 25:						November 26:			
6 a. m	755.87	N	1	c		4 p. m	754.8	N	3–4
10 a. m	56.43	NNW	1	o		7 p. m	52	NW	5–6
2 p. m	54.53	N	2	o		8 p. m	51.8	NW	8–9
4 p. m	55.07	N	2	o, d		8.30 p. m	50.2	WNW	9
8 p. m	55.98	Calm		c, p	12.7	9 p. m	49.5	WNW	9–10
November 26:						9.10 p. m	48	W	10
4 a. m	53.61	N	2	o, r		9.20 p. m	47	W	10
6 a. m	53.93	N	3	o, r		9.30 p. m	46.1	W	10–11
7 a. m	53.85	N	1	o, d		9.40 p. m	45.2	W	10–11
8 a. m	54.36	N	4	o, q, r		9.50 p. m	44.3	WSW	10–11
9 a. m	54.11	NNE	5	o, q, r		10.10 p. m	42.8	WSW	11–12
10 a. m	53.46	NNE	7	o, q, r		10.20 p. m	41.8	WSW	12
11 a. m	53.21	NE	5	o, q		10.30 p. m	41.5	SW	12
Noon	52.48	NE	6	o, q		10.40 p. m	42.2	SW	12
1 p. m	52.18	ENE	6	o, q		10.50 p. m	42.5	SW	12
2 p. m	52.34	ENE	7	o, q, r		11 p. m	43.5	SW	12
3 p. m	52.57	E	7	o, q, r		11.15 p. m	45	SW	12
4 p. m	52.97	E	4	o, q, d		11.30 p. m	46.8	SW	12
5 p. m	53.50	E	3	o		11.45 p. m	48	SW	12
6 p. m	53.79	E	4	o, q		Midnight	49.2	StoW	12
7 p. m	54.44	E	3	o	17.5	November 27:			
November 27:						12.30 a. m	49.6	StoW	11
6 a. m	55.52	E	2	c		1 a. m	50	StoW	7–9
2 p. m	56.17	NE	2	c	.3	2 a. m	51.5	StoW	7–8

From the table it will be seen that the storm burst with great fury over the Pelew Islands with hurricane winds from the W, WSW and SW from 9.30 p. m. of the 26th till after midnight. The barometric minimum 741.5 mm. was observed at 10.30 p. m. The observer at Yap obtained from eyewitnesses some details of the effects of the storm in those Islands, and he said that a great number of houses were completely destroyed, many trees uprooted and that the sea water reached the height of two meters in the towns.

The typhoon in Mindanao.—From letters written by the missionaries in the towns on the northeastern part of the district of Davao, it appears certain that the typhoon preserved all the intensity it had in the Pelews till it had at least crossed the Agusan river between Jativa and Compostela. The vortex entered Mindanao about 7° 30′ latitude N, passing by the north of Baganga and S of Cateel, probably at about 10 p. m. of the 27th. In the following table are given observations made on board steamer *Fernandez Hermanos* in Bislig, and in the stations of Davao and Cagayan.

METEOROLOGICAL OBSERVATIONS FOR NOVEMBER 27 TO 29, 1912.

Bislig.[a]		Davao.					Cagayan.				
Date and hour.	Pressure.	Date and hour.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.
				Direction.	Force.				Direction.	Force.		
	mm.	November 27:	*mm.*		*0–12.*		*mm.*	*mm.*		*0–12.*		*mm.*
November 27:		6 a. m	756.58	N	1	o		757.64	S	1	o	
2 p. m	753.5	2 p. m	55.14	Calm		o, d	62.2	56.48	Calm		o	53.8
4 p. m	51.7	November 28:										
5 p. m	51.9	2 a. m						50.72	NNW	7–8	q, r	
6 p. m	51.3	3 a. m	50	SW	4	o, q, r		49.36	NNW	9–10	q, r	
7 p. m	52.7	4 a. m	50.92	SW	5	o, q, r		50.04	NNW	5–6	q	
8 p. m	51.4	5 a. m	52.14	SW	6	o, q, r		49.71	Calm		o, l	
9 p. m	51.1	6 a. m	52.47	SW	6	o, q, r		48.87	NNW	3–4	o, q, r	
10 p. m	49.9	7 a. m	53.35	Calm		o		48.70	NNW	5–6	q, r	
11 p. m	48.7	7.20 a. m							ESE	5–6		
Midnight	49	8 a. m	54.23	Calm		o		48.70	SE	5–6	q, r	
November 28:		9 a. m						50.70	S	3–4	q	
1 a. m	48.7	10 a. m						51.23	S	2		
2 a. m	49.1	11 a. m						51.63	S	1		
3 a. m	49.1	2 p. m	54.12	Calm		c	12.9	51.56	Calm		o	
4 a. m	50	4 p. m						52.96	Calm			16.7
5 a. m	52.1	November 29:										
6 a. m	53.4	6 a. m	57.37	Calm		c		56.87	Calm		o	
8 a. m	54.4											
10 a. m	55											

[a] Report of steamer *Fernandez Hermanos* (anchored at B islig port, eastern coast of Mindanao), Capt. Emiliano Sison: Since 1 p. m. when the steamer was entering the port of Bis lig, the winds were blowing from NW backing to W, WSW, and SW. Then at 7 o'clock the barometer rose; but later on, a t about 8 o'clock, it fell again rapidly and the winds veered first to the NE quad. and then to the SE quad.

All the points whence these observations come are at some distance from the place crossed by the vortex, and hence to obtain some idea of what took place in the neighborhood of the center we must fall back on the letters mentioned above. The Rev. Bernardino Llobera, missionary at Caraga, gives the following details of the effects of the storm in various towns on the eastern coast of Mindanao:

About midday of November 27, it began to rain gently with winds from the NNE. About 5 o'clock in the afternoon the rain increased, and the people were alarmed by the whistle of the steamer *Bolinao* which was at anchor in Caraga Bay, and which weighed anchor and put out to sea towards the SE. The barometer had then fallen to 751 millimeters.

The rain continued to fall, and at about 10 p. m. the wind suddenly changed to SSW and began to blow more strongly every minute. The convent shook, and sheets of zinc from the roof began to be ripped off; cocoanut palms were bent double and branches of trees were falling all around. The wind continued in this fashion till 3 o'clock next morning.

At daybreak next morning the effects of the storm could be seen on all sides. Part of the roof of the convent had been torn off; the courthouse was practically without a roof; about a dozen houses were on the ground, and about six more had suffered a good deal. A great number of cocoanut palms were uprooted, practically all the bananas and many other trees.

In Manay, the convent was entirely unroofed and the church partly, and several houses were destroyed.

In Santa Fe, the church, courthouse, and several other houses fell. The same happened in Manurigao, and Baculin.

Baganga was completely destroyed.

It is said that in Cateel only five houses remained standing, but there are no details to hand.

The only fatalities are: a Mandaya was found drowned in the Caraga River, three deaths in Baculin, and three in Baganga.

The steamer *Bolinao* returned at 2 p. m. of the 28th, she having ridden out the storm at sea. The barometer on board fell to 745 millimeters.

In another letter it was stated that in Baganga the wind suddenly backed from NW to SW and that the hurricane winds lasted till 1 a. m. of the 28th, causing immense damage. It is said that it was the most violent typhoon ever felt in Baganga.

Rev. Raimundo Vila, missionary in Cateel, says that according to the people no typhoon of equal severity has been felt in the place since its existence, and that it will take ten years to recover from its effects.

Rev. Cristobal Sastre, missionary on the Agusan, thus describes the effects of the typhoon in the towns of his mission:

The typhoon destroyed all the towns of the higher Agusan, especially those between Jativa and Compostela. The two walls of vegetation on each side of river that shut in the view completely have entirely disappeared. Many trees were uprooted and the rest being stripped clean of leaves. In none of the towns struck by the typhoon could I find a house in which to lodge, as they had been all swept away by the fury of the storm.

Judging from the reports received from other points of Mindanao, it seems certain that the typhoon had diminished in intensity by the time that it reached the western part of the island. There are some indications that the storm had divided into two partial centers, but the data are not sufficient to enable us to indicate this division on the track of the storm.

Further course of the typhoon.—Below is given a table of observations made in Dapitan and Dumaguete on November 28, and in Cuyo on the 28th and 29th.

METEOROLOGICAL OBSERVATIONS FOR NOVEMBER 28 TO 30, 1912.

Date and hour.	Dapitan.					Dumaguete.				
	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.
		Direction.	Force.				Direction.	Force.		
November 28:	*mm.*		*0–12*		*mm.*	*mm.*		*0–12*		*mm.*
6 a. m	753.08	NNW	3	o, r		752.90	NNW	3	o, r	
7 a. m	52.54	WNW	3	o, r		52.77	NW	4	o, q, r	
8 a. m	52.58	WNW	3	o, r		52.89	NNW	5	o, q, d	
9 a. m	52.27	NW	3	o, r		52.55	NNW-W	4	o, q, r	
10 a. m	50.86	NNE	4	o, q, r		51.85	N	7	o, q	
11 a. m	50.37	NNE-WSW	5	o, q, r		51.39	NE	8	o, q, r	
Noon	48.64	SSW	2	o, r		51.19	ENE	8	o, q, r	
1 p. m	48.70	WSW	2	o, r		50.45	E	8	o, q, r	
2 p. m	48.61	NNE-SSE	5	o, q, r		50.09	ESE	9	o, q, r	
3 p. m	50.11	ESE	4	o, q, r		50.44	ESE-S	10	o, q, r	
4 p. m	51.67	ESE	4	o, q, r		52.07	SE	8	o, q, r	
5 p. m	52.69	SSE	2	o, r		53.17	SE	6	o, q, r	
6 p. m	52.92	SSW	1	o, d		53.69	SE	4	o, q, r	
7 p. m	54.36	ESE	1	o, d		54.51	ESE	6	o, q, r	
8 p. m	55.33	SSE	1	o		55.13	ESE	5	o, q, r	
9 p. m	56.17	SSW	1	o		55.64	SE-S	6	o, q, r	
10 p. m	56.61	ESE	2	o	68.6	55.89	SSE	6	o. q, r	
11 p. m						56.26	S	4	o, q	
Midnight						56.26	S	3	o	71.6

Cuyo.

Date and hour.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.
		Direction.	Force.		
November 28:	*mm.*		*0–12*		*mm.*
6 a. m	756.84	NNE	1	o, r	
10 a. m	55.95	N	5	o, q, r	
11 a. m	55.67	N	5	o, q, r	
Noon	54.89	N	5	o, q, r	
1 p. m	53.95	N	6	o, q, r	
2 p. m	52.13	N	6	o, q, r	
3 p. m	52.12	N	6	o, q, r	
4 p. m	51.90	NNE	7	o, q, r	
5 p. m	52.17	NNE	7	o, q, r	
6 p. m	51.97	NE	6	o, q, r	78.8
November 29:					
1 a. m	51.82	E	7	o, q, r	
2 a. m	51.23	SE	8	o, q, r	
3 a. m	51.16	SE	8	o, q, r	
6 a. m	53.71	SSE	3	o, r	
10 a. m	55.49	SSE	3	o, r	
2 p. m	54.79	SSE	5	o, q	54.7
November 30:					
6 a. m	58.91	SE	2	o, d	

From these observations it may be asserted that the typhoon began to incline to the north before leaving Mindanao, and that it crossed the Sulu Sea first in a direction to the WNW, and NW by W later, so that it traversed Palawan Island in about parallel 15°. This is also confirmed by the observations of Zamboanga, Iloilo, and San Jose de Buenavista. Once in the China Sea the typhoon inclined more and more to the north till it filled up on the 2d of December to the NE of the Paracels.

The Observatory followed up this latter part of the track by means of these cables sent, as usual, to the foreign observatories of the Far East.

November 28, 4.35 p. m.: Typhoon crossing Mindanao, moving W.
November 29, 8.50 a. m.: Typhoon over the Sulu Sea, moving W or WNW.
November 29, 12.15 p. m.: Typhoon near or over Palawan, moving WNW.

November 30, 12.10 p. m.: Typhoon in about 114° longitude E, 12° latitude N, moving WNW.
December 1, 10.30 a. m.: Typhoon in about 113° longitude E and 14° latitude N, moving N.
December 2, 10.45 a. m.: Typhoon over N China Sea, filling up.

From Hongkong the following cables were received:

November 29, 10.30 a. m.: Typhoon SW of Manila, moving WNW.
November 30, 12.24 p. m.: Typhoon NW of Palawan, moving WNW.

The observatory of Zikawei was also following up the typhoon by means of these typhoon warnings sent to the stations along the China coast.

November 26, 10 a. m.: Typhoon S to E of Yap, within 240 miles, direction WNW.
November 26, 4 p. m.: Typhoon S to W of Yap, direction WNW.
November 28, noon: Typhoon SE of Luzon, direction WNW.
November 29, 7 a. m.: Typhoon Sulu Sea, direction WNW.
November 29, 10 a. m.: Typhoon SW of Luzon, direction WNW.
December 1, 9 p. m.: Typhoon E of Paracels, stationary.

Rate of progress of the typhoon.—The extraordinary velocity of progression of this typhoon from the time it left the Carolines till it reached the Philippines is well worthy of remark, especially if it be considered that the parallels in which it was moving may be reckoned as the southern limit of the zone of typhoons in the tropics. From the south of Yap to Pelew it traveled at the mean rate of 21.2 miles per hour, and from 2 p. m. of the 26th to 2 p. m. of the 27th we have a mean velocity of 21.1 miles per hour. When it reached Mindanao this velocity diminished a good deal, so that taking the track from the time the vortex passed the Pelew Islands till 6 a. m. of the 28th, when it was already in the center of Mindanao, we find a mean velocity of 17.6 miles an hour. Although we cannot give the exact hour at which the vortex entered Mindanao, still it appears fairly probable from what was said in some of the letters copied above, that it must have been about 9.30 or 10 p. m. If this is what really happened, then the typhoon must have kept its rate of progress of about 21 miles till it reached the Philippines, and then, when it was once inside Mindanao, must have greatly decreased in velocity. This is fully confirmed by the velocity of only 16 miles per hour which we have found for the other part of the track between 6 a. m. and 2 p. m. of the 28th.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes resulta para todas las estaciones de Filipinas bastante inferior a la de Noviembre del año pasado. La de Manila se diferencia de la normal en —0.42 mm., y de la media mensual de Noviembre, 1911, en —1.63 mm. Las mayores presiones se observaron casi en todas partes el día 8, y las menores del 24 al 26, a excepción de Mindanao y parte sur de Negros donde las presiones más bajas ocurrieron el día 28.

La temperatura media mensual es casi la misma o ligeramente mayor que en Noviembre, 1911. Los valores extremos para Manila fueron 32.9 y 20.7 °C. registrados los días 3 y 27 respectivamente.

Precipitación acuosa.—Si exceptuamos la estación de Laoang, todas las demás nos dan este mes una suma total de lluvia mayor que la de Noviembre, 1911. Sin embargo, debe tenerse presente lo mismo que indicamos para el mes de Octubre, es decir, que estos últimos meses de 1911 fueron extraordinariamente secos para Filipinas. Comparando estos mismos totales de lluvia con las normales respectivas de Noviembre, hallamos que las diferencias positivas casi igualan en número a las negativas. En Manila se recogieron en todo el mes 164.5 mm. de agua, cantidad que difiere de la de Noviembre del año pasado en +158.4 mm., y de la normal de este mes en +33.6 mm.

DEPRESIONES Y TIFONES.

Este mes, al igual que el pasado Octubre, se ha distinguido por el número de depresiones y tifones que han atravesado el Archipiélago, siendo el más notable el que desfogó en el sur de Sámar y norte de Leyte y Panay los días 24 y 25. Las trayectorias generales de todas las depresiones y tifones de este mes van incluídas en la Lámina XV.

DEPRESIÓN DE 1 A 3 DE NOVIEMBRE, 1912.

Esta depresión apareció la madrugada del día 1 al este de las islas Visayas las cuales atravesó durante la noche del 1 al 2 en forma de una depresión dilatada de muy poca importancia. Aunque el role de los vientos y nuestros mapas del tiempo de 2 y 10 p. m. del 1, y 6 a. m. del 2 indican claramente la trayectoria de esta depresión a través de las Visayas, sin embargo, apenas se notó su influencia más que con abundantes lluvias que cayeron en las estaciones más cercanas al centro de la depresión.

Los siguientes avisos de tifón dados por el Observatorio de Manila dan una idea bastante aproximada de la trayectoria y caracteres de esta depresión:

Día 1, 9 a. m.: Existe un nuevo tifón al E de Visayas probablemente entre los paralelos 10° y 11° N y los meridianos 129° y 130° E. Se mueve aparentemente al W o WNW.

Día 1, 8.45 p. m.: Según las últimas observaciones recibidas esta noche de las estaciones de Sámar y Letye, parece que el tifón que apareció esta mañana al E de Visayas es, al presente, de poca importancia, y puede convertirse en una depresión dilatada que cruzará mañana las Visayas.

Día 2, 9.20 a. m.: El tifón ha cruzado la noche pasada las islas Visayas en forma de una depresión dilatada, hallándose su centro esta madrugada entre Cuyo y la parte SW de Panay. Ha causado abundantes lluvias en todo Visayas, pero ninguna de nuestras estaciones ha dado cuenta de vientos fuertes.

Día 3, 11.55 a. m.: La depresión se halla en el Mar de China entre los paralelos 14° y 15° N y los meridianos 114° y 115° E. Se mueve aparentemente ahora hacia el NW¼W.

A los centros Meteorológicos del Extremo Oriente se trasmitieron los siguientes cablegramas:

Día 1, 9 a. m.: Tifón al E de las islas Visayas, moviéndose al W o WNW.

Día 2, 9.20 a. m.: El tifón cruza las Visayas occidentales en la forma de una depresión dilatada. Es posible que aumente en intensidad en el Mar de China.

Día 3, 9.40 a. m.: Tifón (o depresión) al W de Manila, distancia mayor de 100 millas, moviéndose al WNW o NW.

Parece casi cierto que esta depresión se deshizo el mismo día 3 hacia al SE de Paracels, en los alrededores del meridiano 115° E y del paralelo 15° N.

EL TIFÓN DE NHATRANG: 3 A 8 DE NOVIEMBRE, 1912.

Llamamos a este tifón "el tifón de Nhatrang" por la extraordinaria violencia con que desfogó en aquella población de Indochina, en donde parece no se tiene memoria de otro igual, según veremos más abajo. Afortunadamente para Filipinas, era este tifón de muy poca importancia cuanto a su intensidad y desarrollo mientras atravesó las islas Visayas, si bien su velocidad de traslación fué muy notable a lo largo de toda su trayectoria desde el sur de Yap, Carolinas Occidentales, hasta Indochina.

Desde el día 2 las observaciones de Guam y Yap comenzaron a dar indicaciones de una depresión o tifón situado en las Carolinas Occidentales hacia el ESE de Yap. La tarde del día 3 se pudo ya enviar con seguridad a los Observatorios de Tokio, Zikawei, Taihoku, Hongkong y Phulien este primer aviso de tifón:

Día 3, 4.25 p. m.: Tifón en, o cerca de, las Carolinas Occidentales, dirección desconocida.

El día 4 se trasmitió a los mismos observatorios este segundo cablegrama en que se indicaba ya la dirección del nuevo tifón:

Día 4, 7.30 p. m.: Tifón en, o cerca de, las islas Pelew, moviéndose al W o WNW.

En la trayectoria de este tifón que va en la Lámina XV se verá que efectivamente se movió desde Carolinas hasta Indochina con una dirección intermedia entre las dos indicadas por el Observatorio, es decir, al W¼NW.

Era tal la velocidad con que se movía este tifón que a la 1.30 a. m. del 6 se hallaba ya a la menor distancia de Surigao, a las 6.20 a. m. del mismo día pasaba muy cerca por el sur de Cebú, y a las 4 p. m. se le podía situar en el mar de Joló al Sur de Cuyo. El Observatorio de Manila describió esta parte de la trayectoria del tifón la tarde del 6 en estos términos:

Día 6, 3.30 p. m.: El tifón se halla esta tarde en los alrededores de Cuyo. Continúa moviéndose al W¼NW con una velocidad muy extraordinaria. El centro del baguio debe haber pasado por o cerca de Surigao la noche pasada y por el N de Bohol esta madrugada; cruzó después la isla de Cebú unas pocas millas al sur de la capital; atravesó la parte central de la isla de Negros; y pasó por el S de Iloílo y de San José de Buenavista, muy cerca del extremo S de la isla de Panay.

En la parte superior de la Lámina XVI reproducimos las curvas barográficas del día 6 de las siguientes estaciones de Filipinas: Surigao, Maasin, Tagbilaran, Cebú, Dumaguete, Iloilo y Cuyo. Según estas curvas, debe admitirse que el vórtice del tifón no estaba muy desarrollado cuando pasó cerca de Surigao, Maasin y Cebú: de ahí que en ninguna de dichas poblaciones adquirieron los vientos grande fuerza. En Cuyo los vientos llegaron a ser casi huracanados a pesar de que el vórtice no pasó tan cerca de esta estación como de las tres arriba indicadas, lo cual parece indicar que el desarrollo e intensidad del tifón era mayor cuando pasó por el sur de Cuyo que cuando cruzaba las islas Visayas. Confirman esto mismo las observaciones hechas a bordo del vapor *Marinduque* que se hallaba a la sazón en el canal de Dumaran y quedó encallado en unos bancos de coral. El barómetro bajó hasta 739.40 mm. a eso de 6.50 p. m. del día 7, observándose la calma vortical desde 6.45 hasta poco después de las 7 cuando empezaron a soplar con toda su furia los vientos del SE. Antes de la calma parece que los vientos eran del NW los cuales no alcanzaron más que la fuerza 7 de la escala de Beaufort (viento fuerte o frescachón). En el texto inglés publicamos parte del *report* detallado que escribió sobre este baguio el Comandante del *Marinduque,* Mr. L. O. Colbert. Agradecemos a Mr. P. A. Welker, Director de la Oficina Geodésica de Filipinas, la copia que se sirvió remitirnos de dicho *report* juntamente con una curva barográfica trazada con observaciones horarias tomadas de un barométro aneroide.

El Observatorio de Manila fué siguiendo la trayectoria de este tifón en las notas ordinarias del tiempo de los días 7, 8 y 9:

Día 7, 11.15 a. m.: El tifón se hallaba esta madrugada en el Mar de China en los alrededores del meridiano 116° E y entre los paralelos 11° y 12° N. Continúa moviéndose al W ¼ NW.

Día 8, 11.20 a. m.: El tifón ha continuado moviéndose al W ¼ NW con la misma velocidad extraordinaria que los días anteriores. Su centro se hallaba esta madrugada en, o cerca de, la costa de Annam entre los meridianos 109° y 110° E y en los alrededores del paralelo 12° 30′ N.

Día 9, 10.45 a. m.: Según telegrama recibido del Observatorio de Phulien (Indochina), el tifón penetró en Indochina cerca de Nhatrang ayer mañana. Su centro se halla hoy en Indochina y continúa moviéndose al W ¼ NW.

El tifón después de haber cruzado la isla de Dumaran y el norte de la isla Palawan siguió su curso a través del Mar de China sin cambiar en dirección ni disminuir en velocidad. Cuanto a su intensidad y desarrollo, siguió todavía en aumento resultando así que al llegar a Annam desfogó con tanta furia e inusitada violencia en las cercanías de Nhatrang que se dice no haber allí memoria de otro tifón parecido. Creemos será de interés para nuestros lectores que copiemos aquí los detalles que sobre el particular se dignó remitirnos M. G. Le Cadet, Director del Observatorio de Phulien.

A las 12.30 a. m. del 8 el barómetro registraba 753.3 mm., los vientos refrescaban del WNW y la mar se ponía gruesa. M. Gallois, del Observatorio de Nhatrang, dice: "El tifón se acercaba, y en menos de dos horas desfogó en la localidad, y en cuatro horas convirtió a Nhatrang en un montón de ruinas."

Hora del meridiano 105° E.	Barómetro.	Viento.	Mar.
	mm.		
0.30 a. m	753.3		Algo gruesa.
1.30 a. m	52.2		Gruesa.
2.30 a. m	49.7	A 2 a. m. vientos frescos del W	Gruesa.
3.30 a. m	47.1	A 3 a. m. vientos duros del W	Muy gruesa.
		A 3.30 a. m. temporal del W con tendencia a rolar al S con rachas muy duras.	
4.30 a. m	42.9	A 4 a. m. vientos huracanados del W	Muy gruesa.
5.30 a. m	29.9	Vientos huracanados del W A 5 a. m. huracan furioso del W.	
7.00 a. m	45.0	Despues de 5 a. m. el viento soplaba del S con rachas violentas; cerca de las 9 roló al SE.	

La mínima se registró entre 5.30 y 6 a. m. del 8. En lo restante del día soplaron vientos frescachones del SE. El barógrafo parece iba adelantado de 30 a 40 minutos. A eso de 7.40 sufrió el barógrafo un golpe debido a un pedazo de madera que dió contra él y de ahí que se perdiese la continuidad de la curva hasta que se arregló de nuevo el aparato.

Acompañaban el tifón abundantes lluvias que caían literalmente a la manera de una sábana de agua. La cantidad de agua caida durante la noche hasta 8 a. m. del 8 fué 170 mm.

Este tifón que es el más violento de que se tiene memoria en Nhatrang causó daños considerables. Todas las casas de Europeos han sufrido: casi todas han quedado destechadas.

El Instituto Pasteur fué destruído hasta los cimientos, y el laboratorio y las casas-residencias fueron destechados.

La línea telegráfica está por los suelos hasta más de 15 kilómetros al S de Nhatrang, y más de 40 kilómetros al N.

El centro del tifón debe haber pasado al N de Nhatrang, por la región de Ninh-Hoa, a unos 40 kilómetros de Nhatrang.

Además de los avisos de tifón trasmitidos los días 3 y 4 a los Observatorios del Extremo Oriente, el Observatorio de Manila cablegrafió los siguientes los días 5, 6 y 7:

Día 5, 11.15 a. m.: Tifón en el Oceano Pacífico, a la mitad de camino entre las Carolinas y Filipinas, moviéndose al W o WNW.

Día 6, 8.45 a. m.: Tifón cruzando las Visayas orientales, moviéndose al W o WNW.

Día 6, 4 p. m.: Tifón en la parte norte del Mar de Joló, moviéndose al W o WNW.

Día 7, 12.10 p. m.: Tifón en los alrededores del meridiano 115° E y del paralelo 12° N, moviéndose al W.

Este último aviso de tifón que resultó tan exacto y que hubo de contribuir a que se tomasen en Indochina las debidas precauciones lo fundaba el Observatorio en la dirección y velocidad constantes que se habían observado en este tifón desde que pasó a la menor distancia de Yap el día 4. La dirección fué W ¼ NW, y la velocidad de traslación algo más de 18 millas por hora. Para que se vea que esta velocidad fué prácticamente uniforme y constante, hemos dividido la trayectoria en tres partes y hemos hallado los siguientes resultados: desde 6 a. m. del 4 hasta 1.30 a. m. del 6, 18.2 millas por hora; desde 1.30 a. m. del 6 (mínima distancia de Surigao) hasta 4 p. m. del 6 (mínima distancia de Cuyo), 18.6 millas; y desde 4 p. m. del 6 hasta 5.45 a. m. del 8 (mínima distancia de Nhatrang) 18.5 millas. Tomando toda la trayectoria desde 6 a. m. del 4 hasta 6 a. m. del 8, tenemos una velocidad media horaria de 18.3 millas.

TIFÓN DE LAS CAROLINAS OCCIDENTALES: 18 DE NOVIEMBRE, 1912.

El Observatorio de Manila envió los días 18 y 19 estos avisos de tifón a los Centros Meteorológicos del Extremo Oriente:

Día 18, 6.15 a. m.: Tifón en, o cerca de, las Carolinas Occidentales, dirección desconocida.
Día 18, 7.30 p. m.: Tifón al N de Yap, Carolinas Occidentales, moviéndose al NW o NNW.
Día 19, 6.30 a. m.: Tifón al NW de Yap, moviéndose al NW.
Día 19, 5 p. m.: Tifón al E de las Visayas septentrionales o de la parte sudeste de Luzón, moviéndose al WNW.

En las notas ordinarias del tiempo de los días 18 y 19 se decía lo siguiente:

Día 18, 11.15 a. m.: Una depresión o tifón apareció ayer tarde al SE de Yap, Carolinas Occidentales. Su actual dirección no se puede asegurar aún.
Día 19, 11.15 a. m.: El tifón de las Carolinas Occidentales se halla esta mañana al NW de Yap, moviéndose aparentemente al NW o NW ¼ W.

Las primeras señales claras de este tifón aparecieron en las observaciones de Yap del día 17. El 18 por la tarde pasó el vórtice cerca de aquella estación por el norte causando la mínima barométrica 746.91 mm. a las 6.30 p. m. y vientos violentos del WNW y WSW antes de dicha mínima, y del SW y SSW después. En el texto inglés va una tabla con las observaciones hechas allí los días 16, 17, 18 y 19. El role de los vientos al S y SE observado el 19 movió al Observatorio de Manila a anunciar que el tifón se había inclinado más al W por medio de este aviso de tifón:

Día 19, 4.30 p. m.: El tifón parece haber inclinado su trayectoria más al W desde ayer y por tanto puede ser peligroso para Filipinas. Su centro se halla esta tarde en los alrededores del paralelo 12° N y entre los meridianos 132° y 133° E, moviéndose aparentemente al WNW o W ¼ NW.

El día 20 el tifón influía ya de una manera evidente en las estaciones de las Visayas orientales y del sudeste de Luzón: mas el día siguiente, en vista de que no se acentuaba más el descenso de los barómetros, aunque por otra parte el centro del tifón parecía demorar todavía al E de las Visayas, se anunció como probable que el tifón se rellenaba gradualmente:

Día 21, 10 a. m.: El tifón al E de las Visayas parece estarse rellenando gradualmente.

A los Observatorios de Tokio, Zikawei, Taihoku, Hongkong y Phulien se enviaron estos cablegramas los días 20 y 21:

Día 20, 11.25 a. m.: Tifón al E de las Visayas septentrionales o de la parte sudeste de Luzón, moviéndose al W o WNW.
Día 20, 4.45 p. m.: Tifón al E de las Visayas septentrionales o de la parte sudeste de Luzón, casi estacionario.
Día 21, 10 a. m.: Tifón al E de las islas Visayas, deshaciéndose.

Según los mapas diarios del Observatorio de Tokio, parece probable que el tifón se había dividido en dos centros parciales, y que mientras el uno se deshacía al E de Fili-

pinas, el otro recurvó al nordeste, como puede verse en la trayectoria que damos en la Lámina XV.

EL BAGUIO DE SÁMAR, LEYTE Y PANAY: 24 Y 25 DE NOVIEMBRE, 1912.

Todavía se hallaba el tifón anterior, la tarde del 21, al E de Filipinas, deshaciéndose, cuando aparecía al ESE de Yap, Carolinas Occidentales, otro centro ciclónico que había de ser de fatales consecuencias para el grupo de las Visayas no repuestas aún del terrible baguio de 15 y 16 de Octubre próximo pasado. Según se verá por los datos que iremos aduciendo, fué este baguio de Noviembre peor que el de Octubre, no sólo por su mayor desarrollo e intensidad, sino también por haber conservado por más tiempo su energía y actividad mientras iba atravesando las islas de Sámar, Leyte y Panay.

Origen de este tifón y primera parte de su trayectoria.—Las observaciones de Guam y Yap parecen indicar que ya el día 20 se estaba formando este tifón hacia el ESE de Yap en los alrededores del meridiano 143° E y paralelo 7° N. El 21 por la tarde había indicios de un tifón bien desarrollado en las Carolinas y el 22 al amanecer se pudo situar el vórtice al SSE y no muy lejos de Yap moviéndose a WNW o W ¼ NW. El Observatorio de Manila decía en la nota ordinaria del tiempo de dicho día:

Día 22, 11 a. m.: Mientras el tifón de los días anteriores estaba deshaciéndose ayer al E de las Visayas, otro tifón apareció por la tarde en, o cerca de, las Carolinas Occidentales. Su centro se hallaba esta madrugada al SSE de Yap, moviéndose aparentemente al WNW o W ¼ NW.

En el texto inglés publicamos en una tabla las observaciones hechas en Yap los días 21, 22 y 23. La mínima barométrica 749.07 mm. ocurrió a 8 a. m. del 22 con vientos muy violentos del NNE los cuales rolaron pronto al ENE, ESE y SE. El vórtice pasó, pues, no muy lejos y por el S de Yap la mañana del 22, moviéndose al WNW.

El Observatorio de Manila decía en un aviso de tifón distribuído el 23 a todas las casas navieras de la Capital:

Día 23, 9.30 a. m.: El tifón se halla a mitad de camino entre Yap, Carolinas Occidentales, y las islas Visayas, moviéndose aparentemente al W ¼ NW.

El tifón en Sámar y Leyte.—La tarde del día 23 no nos podía caber la menor duda de que el tifón seguía la dirección dada por el Observatorio y amenazaba por lo tanto atravesar las islas Visayas. Era preciso tomar con tiempo las debidas precauciones, y así se procuró dar la mayor publicidad posible a este aviso de tifón:

Día 23, 3.50 p. m.: El tifón está acercándose a Filipinas y amenaza cruzar mañana las islas Visayas.

A las estaciones todas de Filipinas se había enviado pocos minutos antes este aviso de tifón:

Día 23, 3.35 p. m.: Tifón al E de las Visayas meridionales o de la parte norte de Mindanao, moviéndose al W o WNW.

Al Observador de Catbalogan, capital de Sámar, se remitió a última hora del mismo día este cablegrama:

Día 23, 9.35 p. m.: El tifón se acerca a las Visayas.

Desde la madrugada del 24 hasta que se interrumpieron las líneas telegráficas por la noche, se fueron repitiendo los avisos preventivos cada vez más alarmantes a las provincias que suponíamos más en peligro de sufrir los efectos del temporal. Copiaremos aquí los principales trasmitidos a las capitales de Sámar y Leyte:

A Catbalogan—

Día 24, 7 a. m.: Tome precauciones. Tifón acercándose Sámar. Avise municipios.

Día 24, 12.45 p. m.: Tifón cruzará probablemente parte central de Sámar esta noche. Avise costa oriental tomen precauciones contra posible ola del huracán.

Día 24, 7.18 p. m.: Es posible que el vórtice pase sur Catbalogan, pero no se puede aún asegurar.
Día 24, 8.22 p. m.: Tifón pasará probablemente *entre Catbalogan y Tacloban.*

A Tacloban—

Día 24, 7 a. m.: Ize cuarta señal (tifón peligroso, aunque no inminente todavía). Tifón al E de las islas Visayas, moviéndose al W o WNW.
Día 24, 12.45 p. m.: Tifón peligroso Sámar y parte norte Leyte. Probablemente pasará norte de Tacloban esta noche.
Día 24, 12.55 p. m.: Ize quinta señal (vórtice pasará muy cerca por el norte).
Día 24, 8.20 p. m.: Tifón probablemente pasará muy cerca norte de Tacloban esta noche.

Después de 9 p. m. del 24 quedaban interrumpidas las líneas telegráficas de Sámar y Leyte, quedándonos la satisfacción de haber tenido tiempo suficiente para enviar todos los avisos necesarios. El observador de Catbalogan nos había telegrafiado la tarde del 24 que todos los pueblos de la provincia estaban avisados.

Dos días más tarde, o sea, la tarde del 26, llegaba a nuestras manos el siguiente cablegrama con que el mismo observador de Catbalogan nos daba las primeras noticias sobre la intensidad de este tifón al atravesar la isla de Sámar:

Día 25: Tifón muy intenso. El centro pasó muy cerca por el sur de Catbalogan a la 1 de esta mañana. Vientos huracanados desde 10 p. m. hasta 3 a. m. Intensos y frecuentes relámpagos acompañaban al vórtice. Cien casas destruídas aquí. No ha habido serias desgracias. Todos los pueblos y barrios en la bahía de Maqueda completamente destruídos. Interrumpida comunicación con los pueblos del sur y este. El mar entró en Taft (costa oriental de Sámar) ayer a 4 p. m.

Resultaba con esto claro que se había verificado el pronóstico del Observatorio de que el vórtice pasaría por el sur de Catbalogan, o sea, entre Catbalogan y Tacloban. El observador de esta última estación nos envió algunos días más tarde un telegrama diciéndonos que el vórtice había pasado por el norte y que la mínima barométrica había llegado allí a 693 mm.

Como era de temer, no tardaron en llegar a Manila las tristes noticias de los efectos destructores de este baguio en toda la parte sur de Sámar y norte de Leyte. De ellas diremos algo más abajo después de haber descrito esta parte de la trayectoria del tifón según se puede deducir de las observaciones hechas en Borongan, Calbayog, Catbalogan, Tacloban y Ormoc. Las de las tres primeras estaciones van reunidas en una tabla en el texto inglés, y las de las dos últimas en otra tabla. Además en la lámina XXI reproducimos las curvas barográficas de Guiuan, Borongan, Catbalogan y Tacloban. En Guiuan los vientos huracanados que más destrozos causaron fueron del W y SW. La curva de dicha estación ha sido imposible completarla por haber llegado la pluma al límite que permite el barógrafo Richard y no haberse hecho observaciones directas del barómetro en las cercanías del vórtice. En cambio, gracias a la cuidadosa diligencia con que el observador de Tacloban, Sr. Perfecto Paulino, iba haciendo sus observaciones con el barómetro de mercurio de cinco en cinco minutos, hemos podido completar la curva de dicha estación hasta la mínima 693.08 mm. observada a 11.15 p. m. del 24. El aspecto de la curva de Guiuan parece indicar que la mínima barométrica de dicha estación hubo de ser muy parecida a la de Tacloban. Acerca de esta mínima bueno será mencionar aquí que entre las mínimas barométricas más notables observadas en Filipinas solamente tenemos noticia de tres que hayan sido menor de 700 mm.: una fué 693.98 mm. observada en Tanawan, Leyte, el 12 de Octubre, 1897, otra 690.12 mm. obtenida a bordo del vapor *Pathfinder* junto a la costa nordeste de Sámar (12° 10′ 35″ Lat. N, 125° 31′ Long. E), el 25 de Septiembre, 1905, y la tercera 698.00 mm. registrada en Borongan, costa oriental de Sámar, el 23 de Septiembre, 1908. A estas podríamos añadir una cuarta mínima ocurrida en Santo Domingo, islas Batanes, en un baguio de 26 de Agosto, 1911, la cual no podemos dar exactamente por no haberse podido observar,

pero a juzgar por la curva del barógrafo Richard, muy semejante a la obtenida en Guiuan en el caso presente, hubo de ser con toda seguridad menor de 700 mm., y aún tal vez menor también de 690 mm.[1]

Un examen cuidadoso de las observaciones y curvas de las estaciones arriba indicadas hace ver: (1) Que el centro del tifón pasó por el N de Guiuan y de Tacloban y a la distancia de unas 10 millas de ambas estaciones; (2) que el centro pasó por el sur de Catbalogan y a la distancia mínima de 16 o 17 millas; (3) que mientras el tifón atravesaba la isla de Sámar llevaba la dirección WNW; (4) que una vez abandonada la isla de Sámar se dirigió exactamente al W, lo cual quedará después plenamente confirmado con las observaciones de Cápiz.

En Guiuan no se observó la calma vortical; pero sí fué observada en Salcedo, Matarinao, Borac y Pambujan, según consta de varias cartas y reports que tenemos a la vista y copiaremos más abajo. Todos estos pueblos se hallan al norte y a poca distancia de Guiuan, según puede verse en el mapa de isobaras de la Lámina XVII.

Antes de pasar adelante en discutir la trayectoria de este tifón, copiaremos aquí parte de los varios reports que hemos recibido referentes al paso de este tifón sobre Sámar y Leyte.

El observador de Guiuan nos escribía con fecha 27 de Noviembre:

A las 8 de la noche del 24 de este mes desfogó un baguio destructor en esta localidad con vientos del NW y W que alcanzaron la máxima fuerza 12, al mismo tiempo que relampagueaba terriblemente y subió el agua del mar en la población como a un metro y medio de altura.

Hubo grandes destrozos de casas de materiales fuertes y ligeros. La iglesia y convento destechados. Hubo 19 personas ahogadas en los barrios; pero en la población no hay que lamentar ninguna desgracia personal. Muchos cocales tumbados, arrancados y cortados. * * *

El P. Fr. Juan José Fernández nos envió desde Salcedo los siguientes detalles sobre este baguio:

El día 22 por la tarde salí para un barrio de la playa del mar Pacífico llamado Borac. Este barrio está al sur de la punta Matarinao a la distancia de dos horas andando a pié. Al llegar al barrio en aquella tarde, me marché a la misma playa a observar la mar que estaba furiosa. Pregunté a los del barrio si habían notado baja marea y me dijeron que desde ayer no había bajado la mar, y me dijeron más, que había *doloc*, que era ya la ola precursora de la tempestad que se venía encima. En todos estos días el viento era del norte; las nubes aplomadas, y las puestas del sol encarnadas. El día 23 por la mañana hubo baja marea; pero por la tarde el agua estaba muy alta, llegando ya las olas a poca distancia de los cocales; al anochecer las nubes muy aplomadas y encarnadas; el viento era ya nordeste. El día 24 amaneció lloviendo fuerte y tronando; el viento del nordeste cada vez era más fuerte y la mar más furiosa. Mandé por despacho expreso al pueblo para que me mandaran el barómetro el que llegó a los 2.30 de la tarde, y a esta hora estaba la aguja en 749 mm. Entonces temiendo yo a la mar que se me echara encima por la noche, me arriesgué a subir un montecito que estará sobre el nivel del mar como a unos 30 y tantos metros de altura. Encontré una choza muy baja y sin árboles cerca, la amarramos bien, y allí pasé la noche del 24 con los que me siguieron. A las 9 de la noche la aguja del barómetro señalaba 730 mm., el viento era muy fuerte y seguido, siempre del nordeste, y como era tanta la furia del viento y lluvia nos quedamos ya sin luz ni lumbre. Así a oscuras, no viendo más que a la luz de los relámpagos que parecían llamas de fuego, y arreciando cada vez el mismo viento y lluvia, creíamos que nos arrastraría el viento monte abajo. Nos alcanzó el vórtice a las 9.50 minutos, hora de Manila. Aprovechando la calma y claridad que duró unos diez minutos, abrí la caja del barómetro y pude ver que la aguja estaba colocada donde el minutero de un reloj señala una hora entera menos veintitrés minutos (695 mm.?)[2] Pasado el vórtice, el viento soplaba ya del sur, primero con rachas muy fuertes: pero poco a poco se fué calmando, y a las 12 de la noche se quedó todo más tranquilo. Dos terceras partes de los cocos vinieron a tierra, unos caídos, muchos tronchados por

[1] Véase el "Monthly Bulletin" del Weather Bureau de Agosto, 1911, página 270.

[2] Es esta una manera ingeniosa de leer el barómetro ya que las leyendas del mismo solo llegaban a 700 mm.

la mitad y otros retorcidos por la mitad y la copa y tronco en tierra; los que quedaron en pie todos están desmochados. Cuando llegué a Salcedo todas las casas las encontré en el suelo; el agua de la mar llegó al pueblo como a 1½ metro de altura: dista este pueblo de la mar unos 700 metros y está al nivel del mar al pie de manglares. Los vientos que en este pueblo soplaron más fuertes fueron los del sudoeste. En este pueblo y barrios próximos murieron ahogadas ocho personas: también se ahogaron vacas, caballos, cerdos y cabras. El día 26 hablé con el Sr. Teniente de Constables de Pambujan sur, y me dijo que Pambujan quedó destruído; que sintieron la calma a eso de las 10 de la noche. * * *

Por demás interesante es la carta que recibimos del inteligente observador de Borongan, P. Fr. Cesáreo Montes. En ella echarán de ver nuestros lectores cuán bien se observaron en aquel pueblo todas las señales precursoras de los tifones. Dice así la carta:

Apenas dejaron de oirse las recaladas del baguio que corría por el Pacífico los días 18 al 21 de Noviembre, deshaciéndose al NE de Sámar, cuando por la noche del 22, tiempo y hora a propósito para conocer los primeros ruidos suaves y acompasados procedentes de baguios que corren por el Pácífico, se volvió a oir de nuevo otra recalada que venía del ESE, anunciando la existencia de otro nuevo baguio. Esta fué la primera señal que se notó en esta estación meteorológica, del baguio que dos días después nos había de visitar.

En la mañana del 23 y a las 6 a. m. el barómetro seguía bajando moderadamente. Además, la recalada, fija siempre del ESE, iba tomando fuerza, cuanto más aquel se venía acercando al Archipiélago. A las 8 a. m. se observó convergencia de cirrus y fajas de cirrostratus al ESE, permaneciendo estos por espacio de dos horas, y entonces el horizonte se cubrió de un velo cirroso.

Por la tarde y noche se notaron también las señales precursoras de baguio, arrebol a la puesta del sol y halo bastante pronunciado en la luna. El barómetro sin perder su oscilación, continuaba bajando toda la noche.

A las 10 a. m. del día 24 se recibió telegrama del Observatorio, estrechando más la marcha del baguio que se nos venía encima. Decía el Observatorio en su parte: "Tifón al E de las islas Visayas, moviéndose al W o WNW." De este parte así como del que se recibió a las 2 p. m. en que mandaba el Observatorio izar la 7.ª señal, se dió aviso a las autoridades, y éstas lo anunciaron al público por bandillos.

Desgracias personales: tres individuos fueron aplastados dentro de una casa por un cocotero que cayó encima. Destrozos causados en intereses, relativamente no han sido grandes en esta jurisdicción: algunas casas caídas y algunos camarines deshechos. Bastantes cocoteros han sido tumbados por la parte norte: esto fué debido más que a la fuerza del viento, a la abundancia de lluvia que en los dos días precedentes al baguio hubo en toda esta costa, dejando a los cocoteros sin firme sujeción en las raíces, por lo cual cedieron a la fuerza del huracán. En la parte sur, los efectos del baguio han sido desastrosos. La mayor parte de los cocoteros tronchados y algunos por dos o tres partes partidos. Los pueblos deshechos y sus casas un montón de ruinas.

Al Dr. G. I. Cullen debemos agradecer otro *report* del presidente de sanidad de Guiuan en el cual se dan los siguientes detalles sobre el baguio en Guiuan y Salcedo:

Tengo el honor de informarle que el 24 de Noviembre último desfogó en esta localidad un baguio destructor que no sólo ha ocasionado la pérdida de muchos edificios y sembrados, sino también la de algunas vidas; y cuyos detalles son los siguientes:

En Guiuan.—Desde las primeras horas de la mañana del 24 de Noviembre, ya el tiempo había anunciado la existencia de un tifón, que, según el Observatorio, se encontraba el este de Visayas moviéndose al W o WNW, marcando el barómetro de esta localidad a las 6 a. m. 752 mm., con vientos a ratos achubascados del NW, NNW. Durante todo el día continuó descendiendo el barómetro con los mismos vientos achubascados; de tal modo que a las 2 p. m. señalaba 747 mm. y a las 6 p. m. 741 mm. A las 7 p. m. ya señalaba 736 mm.; y desde este momento comenzó a descender rápidamente, de manera tal, que a las 9 p. m. marcaba 710 mm. con vientos violentos y constantes del NW, NNW. A esta hora empezó a rolar el viento hacia el W adquiriendo entonces su máximo de intensidad (fuerza 12) durando esto por espacio de una hora, y subiendo luego el barómetro rápidamente. En esta hora de la mayor violencia del viento es cuando se han destruído los edificios y sembrados; y también cuando creció el agua, llegando a la altura de 1½ metro frente del edificio municipal, y en algunos barrios como Alingaroc, Songan, Bobon y parte W de Tubabao a la altura de más de 20 pies.

Destrozos—En los edificios.—Todas las casas de materiales ligeros y mixtos han sufrido daños considerables; algunas han sido destruídas totalmente; las más se han quedado sin techumbre ni

tabiques. Se cuentan como unas 350 las casas destruídas solamente en la población. Los edificios de materiales fuertes que más daños han sufrido son la casa-municipal, la iglesia y el convento. Las casas de los comerciantes chinos y la de la Compañía Tabacalera apenas han sufrido desperfectos. Los barrios situados al N y NW de la población como la isla de Tubabao, Alingaroc, Songan, Bobon y Mercedes son los que más han sufrido, pues han sido destruídos casi la totalidad de sus caseríos; y también, donde han ocurrido desgracias personales por el crecimiento del agua.

En los sembrados.—En algunas partes, sobre todo en la proximidad de las colinas, se han perdido como las dos terceras partes de los cocales; en cambio, en otros lugares apenas habrán perdido como una cuarta parte.

En las personas.—Veinte muertos, tres desaparecidos, 3 heridos y un contuso son las personas que han sido víctimas del baguio. De los 20 muertos, 18 se han ahogado y 2 han sido aplastados por las casas. Los 3 desaparecidos se suponen habrán sido arrastrados por el agua y muertos ahogados. En el barrio de Alingaroc es donde hubo más víctimas: Once son los que perecieron ahogados en este barrio, siendo el teniente y el suplente del mismo los que han tenido más pérdidas: el primero perdió su esposa y cuatro hijas, 2 de las cuales ya eran mayores de 18 y 14 años; y el segundo perdió sus 4 hijos. Todos estos perecieron ahogados por haber rebasado el agua la altura de la techumbre de sus casas. En Songan hubo 3 niños ahogados, hijos todos de una sola familia. En Bobon 2 niños ahogados y uno desaparecido. En Buyayaon 2 niños desaparecidos. En Tubabao una mujer ahogada y un niño aplastado por la casa. En Mercedes un viejo fué aplastado por su casa. Y en Lopoc un niño de pocos días murió ahogado. Los heridos todos han sido leves, y han ocurrido dentro de esta población. Y el contuso en el barrio de Campoyon, también leve.

En Salcedo.—En este pueblo ha sido más intenso el baguio. Según el párroco del mismo, el barómetro bajó a menos de 710 mm. Los destrozos son muy considerables. Fué destruído casi todo el caserío. No hay ni una casa que no haya sufrido grandes desperfectos. Los cocales se han perdido como el 80 por ciento. Las víctimas personales son: En la población un niño ahogado; en el barrio de Buabua 8 ahogados todos pertenecientes a una sola familia; y en Bagton 3 aplastados por la casa, también de una sola familia. Los animales muertos son 9 vacunos, 2 caballos y 1 carabao; muchas cabras y cerdos. El agua creció hasta 2 metros dentro de la población en los lugares bajos y a 1 metro en los altos. Se cree que el vórtice haya pasado por los barrios de Borac y Matarinao de la jurisdicción de este pueblo, pues hubo calma antes de rolar el viento. No hubo ningún herido.

Como nota adicional debo añadir que durante el tifón hubo muchos relámpagos que se sucedían casi continuamente.

El mismo Dr. G. I. Cullen antes citado, jefe del distrito de sanidad y observador voluntario del *Weather Bureau* en Catbalogan, nos remitió estadísticas bastante completas sobre los efectos del baguio en los pueblos de la costa sur y este de Sámar. Según estas estadísticas, hubo allí 97 personas que murieron víctimas del baguio distribuídas por varios pueblos en la forma siguiente: Balangiga y Guiuan 24 en cada pueblo; Basey, 15; Pambujan sur, 13; Salcedo, 12; Villareal y Borongan, 4 en cada pueblo; Llorente, 1. El Dr. Cullen, termina con este resumen sobre los destrozos causados por el huracán:

Prácticamente todas las iglesias, escuelas y casas-municipales fueron destruídas en toda la parte sur de Sámar. En Basey se calculan en ₱15,000 los perjuicios causados a la iglesia y convento. En el barrio de San Pedro, pueblo de Santa Rita, el mar subió 7 metros en el centro de población. Un grande parao que se dirigía a Masbate, fué sumergido por las alborotadas olas entre Calbayog y Santo Niño, perdiéndose todas las vidas y todo el cargamento. El barómetro en Llorente marcó 700 mm. En Hernani sólo quedó en pié una casa, y en Villareal, tres. El vapor *Mayo* embarrancó en la bahía de Quinapundan donde se había refugiado. El mar pasó por encima del barco, el cual fué llevado a unos 300 yardas dentro de tierra por una ola de unos 30 pies de altura. En un buen número de barrios de la costa el mar pasó por encima de los techos de las casas de nipa, pereciendo, sin duda, ahogados más número de personas de las que hasta el presente se tiene noticia.

Lo que dice el Dr. Cullen de la mitad sur de la isla de Sámar podría decirse también de la mitad norte de la isla de Leyte. El Observador de Tacloban, Sr. Perfecto Paulino, describe la furia del temporal en estos términos:

Es indescriptible la fuerza del huracán que cruzó por esta cabecera la noche del 24 al 25 de Noviembre. De Tacloban puede decirse que ha quedado arruinado completamente: por todas partes no se ven más que casas destruídas, unas caídas al suelo, inclinadas otras, y muchísimas deshechas, no encontrándose edificio alguno, aún los más sólidos, que no hayan sufrido desperfectos. Este baguio

causó no sólo pérdidas de edificios, vapores, lorchas, etc., sino también desgracias personales de que hablaré después.

El descenso del barómetro era alarmante desde la madrugada del 24, el aspecto del cielo de mal cariz, y los vientos siempre constantes del cuadrante del NW, frescos y sin amainar un momento. Los negros nubarrones corrían con ímpetu del N. Por la tarde el barómetro seguía bajando y los vientos eran ya fuertes, ya violentos. A medida que avanzaba la noche iba desfogando el huracán con mucha furia, y la bajada del barómetro era tan rápida que parecía como si el mercurio quisiese desaparecer por debajo. La mínima absoluta del barómetro de mercurio fué 693.08 mm. a 11.15 p. m. coincidiendo con relámpagos muy frecuentes y vientos del W hasta que amainaron y viraron al WSW. Desde 11.40 hasta las 12 media noche el viento WSW calmó de repente y el cielo aclaró. Después volvió a soplar el viento del SSW y a los veinte minutos desfogaba el huracán con muchisíma más furia que antes de la mínima, rolando gradualmente al S, SSE y SE.

Los principales efectos del baguio en Tacloban son como siguen: El vapor *Sontua* y vaporcito *Caridad* embarrancados; vapores *Monserrat* y *Holpas* naufragados; muchas lorchas y embarcaciones pequeñas perdidas o naufragadas; desgracias personales 12, tripulantes de varias lorchas; la iglesia, escuela pública, "High School," casa-gobierno y demás edificios más sólidos destechados completamente; el gran convento y la presidencia aplastados, los pantalanes destruídos; las casas navieras y sus camarines-depósito de abacá, arroz y coprax también destruídos, así como también la cárcel pública. De las casas de materiales mixtos y ligeros quedaron en pie muy pocas. Se calculan las pérdidas en ₱1,250,000. El agua del mar subió más de 1 metro en las partes altas de la población y unos 2 metros en las partes bajas.

En el mismo *report* del observador de Tacloban se da cuenta de 18 desgracias personales distribuídas en varios pueblos en esta forma: Alangalang, 9; Barugo, 4; Abujog, 2; Babatgon, 1; Jaro, 1; Dagami, 1. Si a estas unimos las 12 de Tacloban, tendremos un total de 30 víctimas del baguio en Leyte. Es de temer, sin embargo, que fueron muchas más y que las estadísticas que nos procuró el observador de Tacloban referentes a los pueblos de Leyte no son tan completas como las remitidas por el de Catbalogan con respecto a Sámar.

No nos ha sido posible obtener vistas fotográficas de los pueblos de Sámar, pero sí de los de Leyte las cuales nos fueron facilitadas por los observadores de Catbalogan y Tacloban. Algunas de ellas van reproducidas en las Láminas XVIII, XIX y XX.

El tifón en Panay.—En el texto inglés van reunidas en una tabla algunas de las observaciones hechas en Cápiz, durante los días 24, 25 y 26 de Noviembre. Por ellas se ve evidentemente que el centro del tifón pasó tocando por el sur de aquella población. De donde se sigue que la dirección de la trayectoria hubo de ser exactamente al W desde que el vórtice abandonó la isla de Sámar hasta que llevó a Cápiz. Véase esta parte de la trayectoria a través de las islas Visayas en la parte inferior de la Lámina XVII. A eso de 8 a. m. tuvo lugar en Cápiz la mínima barométrica 726 mm. El viento fué amainando gradualmente desde las 7.30 a. m. al propio tiempo que iba rolando del NE al E. Puede decirse que estuvo prácticamente en calma desde las 7.55 hasta las 8.40 a. m., despejándose algo el cielo durante este intervalo. A las 8.40 a. m. sopló el viento del SE con más violencia que antes de la calma. Como se ve por todos estos datos, el tifón, aunque todavía bien desarrollado, había ya disminuído en intensidad si se compara la depresión barométrica en el vórtice cuando pasó por Cápiz con la observada en Tacloban.

El Observador de Cápiz dió cuenta de la intensidad y efectos de este tifón en aquella provincia en los siguientes términos:

Según parecer de varias personas inteligentes, no se registra ni se recuerda otro baguio más destructor que éste, pues realmente causó incalculables daños en todos los pueblos de la provincia. En la capital de Cápiz, todas las casas han sufrido daños de mayor o menor consideración. Unas casas han sido despojadas de sus planchas, de otras han caído sus techos, otras han quedado sin tabiques y otras completamente destruídas. Casi todas las casas de materiales ligeros han sido destruídas, y las que no, han sufrido grandes desperfectos.

La High School, la casa-municipal, las escuelas públicas y la iglesia parroquial han quedado en parte destechadas. El edificio provincial y la cárcel provincial, sin embargo, han quedado intactas.

He aquí los números de las casas que han sufrido desperfectos o han sido destrozadas dentro de la población de Cápiz: casas de materiales fuertes que han sufrido desperfectos, 63; de materiales ligeros y mixtos destruídas y caídas, 353. Se calculan las pérdidas generales dentro de la población solamente, en unos ₱100,000.

En todos los demás pueblos de la provincia, excepto la subprovincia de Romblón, casi todo el caserío ha sido destrozado.

Los graneros de palay, unos se han tumbado, y otros han quedado en malas condiciones. El poco palay cosechado, como resto salvado de la gran inundación del baguio de Octubre 16 último, ha quedado averiado.

Las siembras que se han quedado en los campos después del referido baguio de Octubre 16, han quedado totalmente perdidas.

Las casas municipales y escuelas públicas de los diferentes municipios, unas han quedado totalmente destruídas y otras en malísimas condiciones.

En algunos pueblos, el agua ha llegado a 1 metro de elevación en la playa. Los ríos más importantes de la provincia denominados Panay y Aclan han salido de madre, causando una grande avenida e inundación. El río Aclan ha arrastrado algunas casitas de nipa hacia el mar.

Sobre desgracias personales, según noticias no confirmadas aún oficialmente, apenas sí se han registrado diez.

El mar ha arrojado después del baguio, a las playas de los municipios de Cápiz y Panay, cubriendo toda su superficie, una gran cantidad de árboles maderables de varios tamaños y grupos, lo cual es una cosa nunca vista en esta provincia.

También la Provincia de Iloílo, y muy especialmente la parte norte de ella, sufrió de una manera bien considerable los efectos de este tifón. Según las estadísticas oficiales de todos los municipios, a excepción solamente del de Sara que no ha llegado a nuestras manos, las pérdidas causadas en edificios, carreteras, cosechas y animales ascienden a ₱1,548,374. El observador de Iloílo nos describe así la intensidad y efectos del baguio en aquella capital:

El temporal se nos acercó antes de media noche del 24. Los barómetros bajaron de un modo alarmante desde 10.30 p. m. del 24: a las 6 a. m. del 25 estaba ya a 747.57 mm. con tendencia a bajar más y con vientos del SW.

La mínima barométrica tuvo lugar a las 7 a. m. y fué 746.96 con vientos del SW. Los vientos después de la mínima barométrica fueron violentos llegando a la fuerza 10 ó 11. Arrancaban planchas de zinc de las casas de materiales fuertes y derribaban las de materiales ligeros. Las casas de materiales ligeros destruídas aquí en Iloílo son unas 300 y las de materiales fuertes destechadas, 27.

Curso ulterior del tifón.—Desde Cápiz comenzó el tifón a inclinarse bastante al norte hasta llegar a moverse casi al NW en el mar de China durante la noche del 25 al 26. La tarde del 26 se dirigía de nuevo al W viniendo a deshacerse, según parece, el día 27 en los alrededores de la parte meridional de las islas Paracels.

Avisos de tifón entre Hongkong y Manila.—El Observatorio de Manila envió los siguientes avisos de tifón referentes a este baguio a los Centros Meteorológicos del Extremo Oriente:

Día 22, 7.40 a. m.: Tifón en, o cerca de, Yap, moviéndose al W o WNW.

Día 22, 6 p. m.: Tifón al NE de las islas Pelew (Palaos), moviéndose al WNW.

Día 23, 8.30 a. m.: Tifón en el Oceano Pacífico, a la mitad de camino entre las Carolinas y Filipinas, moviéndose al W o WNW.

Día 24, 7.20 a. m.: Tifón al E de las islas Visayas, moviéndose al W o WNW.

Día 25, 8 a. m.: Tifón entre las Visayas y Luzón, moviéndose al W o WNW.

Día 25, 3 p. m.: Tifón en, o cerca de, Mindoro, moviéndose al W o WNW.

Día 26, 9.10 a. m.: Tifón al W de Manila, distancia mayor de 100 millas, moviéndose al WNW o NW.

Día 26, 3.15 p. m.: Tifón en los alrededores 115° long. E y 14° lat. N moviéndose al WNW.

El Observatorio de Hongkong nos favoreció a la vez con estos cablegramas:

Día 25, 11.10 a. m.: Tifón al S de Luzón, moviéndose al WNW.

Día 26, 10.55 a. m.: Tifón al W de Manila, moviéndose al WNW.

El Observatorio de Zikawei anunció también este tifón a las estaciones de la costa de China por medio de estos telegramas:

Día 22, 9.20 a. m.: Tifón hacia el SW de Yap, dirección WNW.
Día 22, 3.15 p. m.: Tifón hacia el NW de Yap, distancia menor de 240 millas, dirección NW.
Día 22, 9 p. m.: Tifón hacia el NW de Yap, distancia mayor de 240 millas, dirección NW.
Día 23, mediodía: Tifón lejos al E de Filipinas, dirección NW.
Día 23, 9 p. m.: Tifón al SE de Luzón, dirección NW.
Día 25, 10 a. m.: Tifón al S de Luzón, dirección WNW.
Día 26, mediodía: Tifón al SW de Luzón, dirección NW.
Día 27, mediodía: Tifón en Paracels, dirección NW.
Día 28, mediodía: Tifón entre Paracels y Hainan, dirección NW.

Algunas observaciones sobre este baguio.—Antes de terminar la discusión de este baguio que tan tristes recuerdos dejó de sí en las islas Visayas, vamos a hacer algunas pocas observaciones sobre sus caracteres más principales, comparándolos, en cuanto sea posible, con los del tifón de 15 de Octubre último.

En primer lugar el vórtice de este tifón estaba más desarrollado que el de 15 de Octubre, y por lo tanto la violencia de los vientos huracanados fué naturalmente mayor en toda la zona de destrucción. Sin embargo, fué este baguio relativamente seco, es decir, poco abundante en lluvias, formando así un contraste bien notable con las lluvias tan torrenciales que acompañaban el baguio de Octubre a lo largo de su trayectoria a través de las islas Visayas. Debido, sin duda, a esta circunstancia favorable, las desgracias personales en este último baguio fueron mucho menos de lo que en un principio se temía.

En segundo lugar, la velocidad de traslación con que se movía este tifón en Filipinas era más que regular, próximamente doble de la velocidad del tifón de Octubre. Hemos hallado esta velocidad tomando dos puntos de la trayectoria bien determinados por medio de las curvas barográficas de Tacloban y Cápiz. El vórtice pasó sobre Tacloban a las $11^h\ 15^m$ p. m., del 24, y sobre Cápiz, a $8^h\ 05^m$ a. m. del 25. Luego empleó $8^h\ 50^m$ en salvar la distancia de Tacloban a Cápiz: y como esta distancia es de 135 millas, tenemos una velocidad de 15.3 millas naúticas por hora. Considerando la primera parte de la trayectoria comprendida entre las Carolinas Occidentales y las Filipinas hallamos una velocidad aproximada de 12.5 millas por hora.

Por último, ocurre preguntar: ¿acompañaba a este baguio cuando penetró en Filipinas ola ciclónica de desastrosos efectos sobre todo para las costas orientales de Sámar y Leyte? Recuerden nuestros lectores lo que sobre esta materia dijimos en el BOLETIN del mes anterior, hablando del tifón de 15 de Octubre. Afortunadamente podemos asegurar también en el caso presente que, a pesar de tratarse de un tifón tan desarrollado, la ola ciclónica hubo de ser relativamente de poca importancia. Aunque habíamos formado ya nuestra opinión sobre el particular, con todo, quisimos saber el parecer de alguna persona inteligente que se hubiese hallado cerca de los pueblos de la costa de Sámar que naturalmente estaban más expuestos a sufrir los efectos de estas olas. Nos dirigimos, pues, a nuestro observador de Borongan, R. P. Fr. Cesareo Montes, de quien obtuvimos la siguiente interesante carta que copiamos casi íntegra para satisfacción de nuestros lectores:

Contesto a V. R. mandándole algunas notas de lo visto y observado en la noche del 24 de Noviembre. Según mi parecer, en la subida del agua en la costa de Sámar, más influencia ha tenido la fuerza de los vientos que la ola del huracán.

La subida del agua, en la noche del 24 de Noviembre, coincidió con el flujo y reflujo de las mareas ordinarias. Era víspera de luna llena, y las mareas, por lo general, son mayores en las lunas llenas que en las nuevas. En aquella noche la marea más alta había de ser hacia las $6^h\ 30^m$ p. m. Las aguas, no obstante, continuaron sucesivamente subiendo a medida que los vientos iban aumentando en fuerza y rolando del N al NE, E y ESE. Al soplar los vientos del ESE, hora en que el vórtice estaba ya dentro

de la isla, las rachas fueron violentísimas y de fuerza indescriptible; mucho mayor que en los vientos del primer cuadrante. Al fijarse los vientos en el segundo cuadrante, las aguas, resguardadas de la fuerza de los vientos, empezaron enseguida su descenso.

La máxima altura que alcanzó aquí el agua fué de 1.7 metros sobre el nivel de la pleamar.

Otra de las razones porque opino que la subida del agua no obedeció a la ola, es ésta. Según varias veces he tenido ocasión de observar, cuando la ola es la que produce la subida de las aguas, es esta precipitada e impetuosa permaneciendo luego algún tiempo en su formidable altura y descendiendo después con bastante impetuosidad. En cambio, en la noche del 24 las aguas subieron pausadamente hasta llegar a su máxima altura: y aunque es verdad que el vórtice no pasaba por la localidad, sin embargo, la ola del huracán debería haberse comunicado hasta llegar a manifestarse mejor, aún a largas distancias.

Puede añadirse también como confirmación de lo anterior, lo ocurrido en el pueblo de Hernani, tan castigado y señalado en el año 1897 por la célebre ola del huracán que barrió y sepultó a todo el pueblo con centenares de víctimas en el desierto de arena y maleza que arrastró la ola. En aquel entonces, según pude leer en el trabajo del P. Algué sobre el "baguio de Sámar y Leyte," y posteriormente oir en el mismo lugar de la catástrofe de labios de algunos supervivientes, la impetuosa ola que causó tantos estragos hizo subir las aguas a más de 7 metros, permaneciendo por espacio de tres horas en la misma altura. En el caso presente, no ha sido así, no obstante que el centro del vórtice ha pasado más cerca, tangenteando el sur de Hernani, y soplando los vientos con más fuerza que en el baguio del 97, según después ha manifestado la misma gente. En esta ocasión la subida de la mar ha sido más suave y gradual, no tan impetuosa como el año 97, ni de tanta elevación. La suma de elevación del agua ha sido, según los mismos vecinos, de 2.5 metros sobre la pleamar. Al notarse allí la calma vortical y saltar el viento al SE, empezó a continuación la bajada del agua.

EL TIFÓN DE MINDANAO: 28 DE NOVIEMBRE, 1912.

El Observatorio de Manila dijo lo siguiente sobre este tifón en una nota publicada en los periódicos de la capital la tarde del 29:

Día 29, 4.30 p. m.: Aunque no hay todavía comunicación con las Visayas meridionales y Mindanao desde el tifón del 25, parece que el presente tifón se ha movido con una velocidad bastante extraordinaria desde que apareció en las Carolinas Occidentales el lunes pasado. Según todas las probabilidades han estado en la trayectoria del tifón la parte central o meridional de Mindanao y la parte sur de Palawan.

El mismo Observatorio indicó varias veces que este tifón de Mindanao parecía ser de mucha intensidad. Las noticias que hemos ido recibiendo posteriormente han venido confirmando nuestros temores hasta tal punto que los habitantes de los pueblos de la costa oriental de Mindanao que se hallaron cerca del vórtice aseguran no haber allí memoria de otro baguio tan intenso. Según veremos luego, la trayectoria de este tifón cortó la parte central de Mindanao dejándose sentir la mayor violencia del huracán precisamente en aquella parte de la isla que podríamos llamar de menos importancia y que está más incomunicada con el resto del Archipiélago. De ahí que aun cuando la prensa de Manila se preocupó mucho por los pronósticos del Observatorio, con todo, los efectos del tifón en Mindanao apenas tuvieron resonancia alguna. En hecho de verdad no fué sino después de un mes que le fué posible al Observatorio señalar con alguna precisión la parte de aquella isla por donde había penetrado el vórtice. Debe añadirse a esto que, dado lo ancho que es la isla de Mindanao en su región central, cuando el tifón llegó a partes de la isla de mayor importancia y de más fácil comunicación con Manila, como son el distrito de Lanao y la provincia de Misamis, había ya perdido mucho de su intensidad y desarrollo.

Esto supuesto, vamos a decir algo sobre el origen y trayectoria de este último baguio de Noviembre, 1912.

Origen del tifón.—Fué este el cuarto de los baguios de Noviembre que vino formado de las Carolinas Occidentales, dando así oportunidad para ser anunciado con más de dos días de anticipación, a pesar de su extraordinaria velocidad de traslación de que diremos algo más abajo, y a pesar de estar el Observatorio incomunicado con las Visayas y con Mindanao desde el baguio del 24 y 25. Fué por la tarde del 25 cuando, al propio tiempo que anunciábamos a los Observatorios del Extremo Oriente que el tifón de Tacloban se

hallaba en los alrededores de Mindoro, señalábamos la existencia de un nuevo centro ciclónico en las Carolinas Occidentales por medio de este cablegrama:

Día 25, 3 p. m.: Tifón en, o cerca de, las Carolinas Occidentales, dirección desconocida.

Las observaciones de Yap y Guam que recibimos por telégrafo no dejaban lugar a duda sobre la existencia de un nuevo tifón situado al ESE de Yap y SSW de Guam, en los alrededores de 143° long. E y 7° 20′ lat. N.

El Observatorio dijo lo siguiente en la nota ordinaria del tiempo del día 26:

Día 26, 11.25 a. m.: Un nuevo tifón apareció ayer tarde en, o cerca de, las Carolinas Occidentales, hacia el ESE de Yap: se mueve al presente al W ¼ NW.

El tifón en las islas Pelew (Palaos).—Por la tarde del 26 y mañana del 27 se trasmitieron estos avisos de tifón a los centros meteorológicos extranjeros de China, Indochina, Formosa y Japón:

Día 26, 3.45 p. m.: Tifón en, o cerca de, Yap, moviéndose al W.
Día 27, 7.20 a. m.: Tifón en, o cerca de, las islas Pelew (Palaos), moviéndose al W.

A las casas navieras de Manila se envió este aviso de tifón en las primeras horas de la mañana del 27:

Día 27, 7.45 a. m.: Existe un tifón en los alrededores de los paralelos 7° ó 8° N y de los meridianos 134° ó 135° E, moviéndose aparentemente al W hacia Mindanao.

Las noticias recibidas posteriormente confirman estos avisos del Observatorio con respecto a estos dos puntos: (1) Que el baguio se movió desde las Carolinas en dirección al W; y (2) que el vórtice atravesó o pasó muy cerca de las islas Pelew (Palaos). Observaciones hechas en aquellas islas nos fueron facilitadas por medio de nuestro observador de Yap, Sr. Prudencio Urbiztondo, y las publicamos en el texto inglés en una tabla juntamente con las de Yap. Por ellas se ve la grandísima intensidad con que desfogó allí el temporal con vientos huracanados del W, WSW y SW desde las 9.30 p. m. del 26 hasta después de media noche. La mínima barométrica fué 741.5 mm. observada a las 10.30 p. m. El citado observador de Yap nos decía que, según datos que pudo recoger de testigos presenciales, era sumamente triste la situación en que habían quedado los pueblos de Pelew después del baguio del 26. Hubo gran número de casas completamente aplastadas, árboles arrancados de cuajo, y subida extraordinaria de las aguas del mar que llegaron, aún dentro de las poblaciones, a la altura de 2 metros.

El tifón en Mindanao.—Según cartas escritas por los Padres misioneros de los pueblos de la parte nordeste del distrito de Dávao, parece poder asegurarse que el tifón conservaba toda la intensidad que tenía en Pelew al menos hasta después de atravesar el río Agusan por entre Játiva y Compostela. El vórtice penetró en Mindanao por los alrededores de 7° 30′ lat. N, pasando por el N de Baganga y S de Cateel, probablemente a eso de 10 p. m. del 27. En el texto inglés reunimos en una tabla algunas observaciones hechas a bordo del vapor *Fernández Hermanos* en Bislig, y en las estaciones de Dávao y Cagayán. Todos estos puntos, sin embargo, se hallaban algo lejos del vórtice. Lo ocurrido en las cercanías de éste lo hemos de sacar de las cartas arriba mencionadas.

El R. P. Bernardino Llobera, misionero de Caraga, escribió los siguientes detalles sobre los efectos de este baguio en varios pueblos de la costa oriental de Mindanao:

El día 27 de Noviembre pasado, después de unos días de sol, comenzó a llover, casi al mediodía, pero mansamente y con viento NNE. A eso de las 5 de la tarde arreció la lluvia, alarmando al vecindario las pitadas del vapor *Bolinao* que estaba fondeado en la bahía de Caraga, el cual levó anclas y se largó, mar adentro, al SE. El barómetro había bajado a los 751 mm.

La lluvia continuaba con regularidad, y a eso de las 10 de la noche, el viento roló de repente al SSW y comenzó a soplar a cada momento con más violencia. El convento temblaba; comenzaron a volar planchas de los tejados; los cocos se doblaban que daba miedo; caían los *saguins*, *papayas* y ramas de árboles. El mar rugía con espanto, etc. El viento no amainó hasta a eso de las 3 de la madrugada.

Al amanecer se vieron los destrozos del baguio. En la iglesia nada ocurrió: en el convento volaron algunas planchas de la esquina SE. El colegio de las madres nada sufrió. La escuela de los niños sufrió poca cosa.

Del tribunal volaron casi todas las planchas, como también las de varias casas. Se cayeron unas doce casas, otras seis padecieron mucho. Se cayeron muchos cocos, y casi todos los *saguins* y otros árboles.

Después llegaron noticias de que en Manay habían volado todas las planchas del convento, casi todas las de la iglesia, y se habían caído varias casas.

En Santa Fé se cayó la iglesia, tribunal y varias casas. Lo mismo en Manurigao.

En Baculin fueron derribados el convento, iglesia, tribunal y casi todas las casas.

En Baganga volaron las planchas del ala paralela a la iglesia, y una parte de las de la iglesia. El colegio de las madres fué derribado por completo; ellas se refugiaron a los bajos del convento y allí vivían. Fueron llamadas a Caraga. El pueblo de Baganga quedó destruído casi por completo.

En Cateel dicen que sólo quedaron cinco casas. No hay pormenores.

Desgracias personales sólo se cuentan las que siguen. Un mandaya fué encontrado ahogado en el río de Caraga. Tres muertos en Baculin y tres en Baganga.

El vapor *Bolinao* volvió a eso de las 2 p. m. del 28. Había estado toda la noche capeando el baguio en alta mar. El barómetro bajó a bordo de dicho vapor a 745 mm.

En otra carta se dice que en Baganga el viento voló repentinamente del NW al SW y que los vientos huracanados duraron hasta 1 a. m. del 28, causando inmensos destrozos. Aseguran haber sido el baguio más intenso que se ha sentido en Baganga.

El R. P. Raimundo Vila, misionero de Cateel, dice que, según asegura la gente del pueblo, desde que existe Cateel no se había sentido allí un baguio tan intenso como este, y que ni en diez años volverán a estar las casas como antes. Añade el mismo Padre que en los barrios fueron también arruinadas todas las casas y capillas con las plantaciones de los contornos.

El R. P. Cristobal Sastre, misionero de Agusan, describe así los efectos del baguio en los pueblos de su misión:

El baguio destrozó todos los pueblos del alto Agusan, principalmente desde Játiva hasta Compostela. Aquellos dos muros de vegetación tan frondosa que a uno y otro lado del río impiden siempre ver lo que hay a 2 metros de distancia, habían desaparecido por completo. Algunos árboles arrancados de cuajo: de los demás sólo quedaba el tronco, mondo y lirondo. Las enredaderas y maleza convertidas en un montón de basura. En ninguno de los pueblos azotados por el baguio encontré casa en que alojarme, pues la furia del baguio las había derribado todas.

A juzgar por las noticias recibidas de otros puntos de Mindanao, parece poder asegurarse que el tifón había disminuído bastante en intensidad cuando llegó a la parte occidental de aquella isla. Algunos indicios tenemos también de si se había dividido en dos centros parciales: pero los datos que tenemos no son bastante concluyentes para indicar esta división en la trayectoria de este baguio.

Curso ulterior del tifón.—En el texto inglés van en una tabla las observaciones hechas el 28 en Dapitan y Dumaguete, y el 28 y 29 en Cuyo. Según estos datos que se podrían confirmar también con las observaciones de Zamboanga, Iloílo y San José de Buenavista, puedo darse por seguro que el tifón empezó a inclinarse al norte aún antes de abandonar la isla de Mindanao y que atravesó el mar de Joló moviéndose al WNW primero y al NW $\frac{1}{4}$ W después, viniendo probablemente a atravesar la isla Palawan por los alrededores del paralelo 15°. Una vez en el mar de China se fué inclinando más y más al norte hasta deshacerse el día 2 de Diciembre al NE de Paracels.

El Observatorio de Manila fué siguiendo esta última parte de la trayectoria de este baguio por medio de los siguientes cablegramas trasmitidos como de costumbre a los observatorios extranjeros del Extremo Oriente:

Día 28, 4.35 p. m.: Tifón cruzando Mindanao, moviéndose al W.
Día 29, 8.50 a. m.: Tifón en el mar de Joló, moviéndose al W o WNW.
Día 29, 12.15 p. m.: Tifón en, o cerca de, Palawan (Paragua), moviéndose al WNW.
Día 30, 12.10 p. m.: Tifón en los alrededores de 114° long. E y 12° lat. N, moviéndose al WNW.

Día 1 de Diciembre, 10.30 a. m.: Tifón en los alrededores de 113° long. E y 14° lat. N, moviéndose al N.

Día 2, 10.45 a. m.: Tifón en la parte N del mar de China, deshaciéndose.

Del Observatorio de Hongkong recibimos estos cablegramas referentes a este tifón:

Día 29, 10.30 a. m.: Tifón al SW de Manila, moviéndose al WNW.
Día 30, 12.24 p. m.: Tifón al NW de Palawan, moviéndose al WNW.

El Observatorio de Zikawei siguió también la trayectoria de este baguio por medio de estos avisos de tifón trasmitidos a las estaciones de la costa de China:

Día 26, 10 a. m.: Tifón hacia el SE de Yap, distancia menor de 240 millas, dirección WNW.
Día 26, 4 p. m.: Tifón hacia el SW de Yap, dirección WNW.
Día 28, mediodía: Tifón al SE de Luzón, dirección WNW.
Día 29, 7 a. m.: Tifón en el mar de Joló, dirección WNW.
Día 29, 10 a. m.: Tifón al SW de Luzón, dirección WNW.
Día 1 de Diciembre, 9 p. m.: Tifón al E de Paracels, estacionario.

Velocidad de traslación del tifón.—Es digno de llamar la atención que se moviese este tifón con una velocidad tan extraordinaria desde las Carolinas hasta las Filipinas, sobre todo si se tiene en cuenta que los paralelos por donde se movía pueden considerarse casi como el límite meridional de la zona de tifones en los trópicos. Desde el sur de Yap hasta Pelew se movió con una velocidad media aproximada de 21.2 millas por hora; y desde 2 p. m. del 26 hasta 2 p. m. del 27 hallamos una velocidad media de 21.1 millas por hora. En llegando el baguio a Mindanao disminuyó bastante esta velocidad de traslación: de ahí que tomando todo el trayecto comprendido entre la hora en que pasó el vórtice por las islas Pelew y las 6 a. m. del 28 cuando se hallaba ya en el centro de la grande isla de Mindanao, encontramos una velocidad media de 17.6 millas por hora. Ahora bien, aunque no podemos dar con entera precisión la hora en que penetró el vórtice en Mindanao, parece bastante probable, por lo que se dice en algunas de las cartas copiadas arriba, que hubo de ser a eso de 9.30 o 10 p. m. En tal caso debió de conservar el baguio su velocidad de traslación de 21 millas por hora hasta llegar a Filipinas, y hubo de ser dentro de Mindanao donde disminuyó notablemente esta velocidad. Confirma esto la velocidad de solas 16 millas por hora que hemos hallado para la otra parte de la trayectoria comprendida entre 6 a. m. y 2 p. m. del 28.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[a]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Day.	Pressure (mean).	Air temperature.[b] Mean.	Maximum.	Minimum.	Underground temperature. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity (mean).	Vapor pressure (mean).	Evaporation.[b] Free exposure (total).	Shelter (total).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	*Per ct.*	*mm.*	*mm.*	*mm.*
1	759.89	26.4	31.7	22.8	28.6	29.5	29.5	29.8	29.2	28.9	85.5	21.8	2.6	1.9
2	59.24	26.9	32.5	22.6	28.6	29.6	29.4	29.6	29.2	29	78.6	20.5	3.4	2.6
3	59.13	27.5	32.9	24.2	28.8	30	29.5	29.7	29.2	29.1	77.8	21	4	3
4	59.53	26.4	32.7	23.2	28.9	30	29.6	29.9	29.2	29	84.6	21.5	2.3	2.1
5	60	26	31.9	21.8	28.3	30	29.6	29.8	29.2	28.9	77.5	19	4.4	3.6
6	58.45	25.1	29.5	22.8	28.4	28.7	29.6	29.5	29.1	28.9	84.6	19.9	2	2.3
7	59.63	24.7	28.1	23.2	27.3	27.8	28.9	28.9	29.1	28.9	90.6	20.9	.6	.9
8	60.66	26	31.7	22.3	27.2	28.5	28.6	29	29.1	28.9	82.2	20.3	2.6	2.2
9	59.67	25.5	31	21.4	27.5	28.6	28.7	28.7	29.1	28.9	85	20.4	2.5	1.9
10	59.38	25.6	31.9	21.2	27.6	29.1	28.8	28.9	29.1	28.9	78.5	18.8	4	2.9
11	60.24	25.4	31.5	20.8	27.5	28.7	28.8	29.1	29.1	28.9	84	20.1	2.2	1.9
12	60.18	26	31.5	23	27.8	28.7	28.9	29.1	29.1	28.8	81.9	20.4	2.1	2
13	59.10	25.4	31.5	21.4	27.8	29	28.9	29	29	28.9	84.4	20.2	2.2	1.7
14	59.14	24.9	30.8	20.8	27.6	28.9	28.8	28.9	29	28.9	89.2	20.8	1.2	1.2
15	59.86	25.6	31.2	21.8	27.6	28.7	28.8	29	29	28.9	83.7	20.3	2.3	2.2
16	59.52	26.4	31.4	23	27.8	28.8	28.8	29	29.1	28.9	82	20.8	2.8	2.1
17	59.21	26.1	31.3	23.2	28.2	28.9	28.9	29.1	29	28.9	83.5	20.8	2.3	2.3
18	58.97	26.1	32.1	22.7	28.3	29.2	28.9	29.1	29	28.9	84.9	21.1	2.6	2.1
19	58.94	26.1	32.2	21.9	28.3	29.3	29.1	29.3	29	29	82.3	20.4	3.3	2.4
20	58.55	25.9	30.9	22.1	28.2	29.2	29.2	29.4	29	28.9	82.9	20.5	1.9	1.8
21	58.44	26	31.5	23.2	28.4	29.3	29.1	29.4	29	28.9	83.7	20.6	2.7	2
22	58.89	25.4	30.9	21.7	28.2	29.3	29.1	29.4	29	28.9	80.6	19.2	3.1	2.4
23	58.68	24.7	31	21	28.1	28.9	29.1	29.4	29	28.9	80.2	18.3	2.8	2.3
24	57.78	24.9	30.5	21	28	28.5	29	28.9	29.1	28.9	79.9	18.6	3.9	8.3
25	55.20	24.2	26	22.4	27.3	27.2	28.8	28.6	28.8	28.9	81.7	18.4	1.5	2
26	57.60	26.6	32.3	23.2	26.7	28.4	28.2	28.5	28.9	28.9	75.5	19.4	4.1	2.8
27	59.06	25.6	31.3	20.7	27.1	28.3	28.3	28.6	29	28.9	81.2	19.7	2.8	1.8
28	57.63	26	30.7	23.4	27.7	28.3	28.5	28.6	28.9	28.7	83	20.6	1.7	2.4
29	57.19	24.1	26.3	22.9	27.3	27.2	28.4	28.3	28.7	28.8	93.3	20.9	.2	1
30	58.55	25.3	29.7	23.5	26.7	27.5	28	28.1	28.8	28.8	88.4	21	1.4	1.3
Mean	758.94	25.7	31	22.3	27.9	28.8	28.9	29.1	29	28.9	83	20.2	2.5	2.1
Total													75.5	64.4
Departure from normal	—0.42	—0.2	+0.7	+0.1							+0.5	—0.2		

Day.	Wind. Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Sunshine.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	*Km.*		*0–10.*			*h.* *m.*	*mm.*	
1	W, NNE	79.5	11	W	5.7	Ci.	Cu. ENE	7 25		∞ a. ≲ p.
2	ESE	115.5	11	E	5.2	Ci.	Cu. E	8 05	0.1	d a.
3	SE	148	15.5	SE by S	3.3	A.-Cu.	Cu. SE	8 45		
4	SE, W	86.5	15	ENE	5.7	Ci.	Cu. E	6 15	.3	d° a. ⊤ ●° ≲ p.
5	NE	104	15	NNW	7	Ci.-S.	Cu. NE	6 50		Ω a.
6	N	326	44	N by E	10	Ci.-S. SE	N. EbyN	0 30	31.5	● ⊤ p.
7	NE quad.	73.5	9	ENE	10		N. E	0 00	24.3	● ⌈ ≲ a. ●° p.
8	E quad.	98.5	14	ESE	7.4	Ci.-S., A.-Cu.	Cu. E	5 50	.3	d ⊤ a.
9	NNW, W	57.5	13	W	3.9	Ci.-Cu.	Cu. E	7 45		p° p.
10	W, NNE	117.5	14	W	2.2		Cu. EbyN	9 40		
11	NE quad.	80	12	W	5.2	Ci., Ci.-S.	Cu. E	6 40	2	p° ●° p.
12	N quad.	79.5	8.5	ENE	6.2	Ci.-S.	Cu. ENE	6 25	2.5	● p.
13	Variable	59.5	8	WSW	5.2		Cu. ENE	4 55		
14	SE, NNE	63	9	SE	8.1		Cu.-N. NE	4 50	8.4	● ⊤ p.
15	NE	195	21	N	7.7	Ci.-S.	Cu. E	5 05	.8	●° p.
16	NNE	113.5	13.5	NNE	5.9	Ci.	Cu. ESE	6 30		
17	W, NNE	110	11	WSW	7.5	Ci.	Cu. E	6 35	1.8	● p.
18	W	120.5	14	W	6.2	A.-Cu. E	Cu. E	7 50		Ω° a. d° ⊤° p.
19	SE, W	106.5	12	W	3.4		Cu. E	9 40		Ω° a.
20	NE	125.5	16	NNE	7	Ci.	Cu. ENE	8 15	5.1	● p.
21	NE, SE	110.5	15	NE	8.2	A.-Cu.	Cu. NE	3 35		
22	W	118	11.5	W	4.6	Ci.	Cu. NEbyN	7 25		
23	N quad.	108.5	9	W	4.5	Ci.	Cu. E, ENE	6 15		
24	N	170	19.5	N	9.5	Ci.-S.	Cu. E	2 15		
25	N	426	31	N by W	10	Ci.-S.	Cu.-N. E	0 00	4.6	●° ⊤° p.
26	SE	232	17	ESE	6.8	Ci.	Cu. SSE	8 40		
27	WNW	91.5	12	WNW	8.5	Ci.	Cu.	7 25		☾° a.
28	N	290.5	27	N	9.4	A.-Cu. ENE	Cu.-N. EbyN	1 45	1.7	●° a. p.
29	E quad.	197.5	16	E	10	Ci.-S.	N. ESE	0 00	74.2	●² a. ● p.
30	SE	180	16.5	SW by W	9.5	Ci.-S.	Cu. SE quad.	1 15	6.9	d a. ● p.
Mean		139.5	15.4		6.8			5 33		
Total								166 25	164.5	
Departure from normal		—23.3			+0.4			+3 59	+33.6	

[a] All the mean values given in this table are deduced from hourly observations.
[b] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[a]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 26.2 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction.			
									Upper.	Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												d° a.
11	758.72	26.4	31.6	22	84	SSE, S	0.5	2.8	Ci.	Fr.-N., Fr.-Cu. E, SE		
12	58.56	26.5	32.3	22.9	87.2	NNW, SSE	.5	2.5	Ci.	Cu. N, E		
13	57.94	27	32.4	22.6	79.7	SSE, S	1	1.3	Ci.	Cu. SE		
14	58.04	26.4	32.5	22.7	82.8	SE, S	.7	3.3	Ci. W	Cu. SE		
15	58.68	26.7	31.3	22.8	84.3	S, SSE	.3	4.2	Ci., Ci.-S.	Cu. SE		
16	58.62	26.4	32.6	22	84.7	SE	.8	2.7	Ci.	Cu. E		
17	58.06	26.5	33	21.2	80.7	SE	.8	1.7	Ci.	Cu. E		
18	57.87	26.6	32.5	23.4	81.5	SSE, SE	.7	3.3	Ci.	Cu. E		⊽² p.
19	57.82	27.2	33.9	23.2	82.2	S	.7	3.5	Ci.	Cu. E		
20	57.49	26.6	33.8	22.3	83.7	Variable	1	5.3	Ci.-S., Ci.	Cu. NE quad.		
21	57.04	27.4	34.8	23.4	80.8	Variable	.7	4.2	Ci.	Cu. E, NE		
22	57.60	26.1	32.9	22.8	87.3	NNW, S	.8	7	Ci.-S.	Cu. E	2.8	⌐⊻° ●° p.
23	56.95	26.2	30.2	23.3	86	NE	.7	10	Ci.-S.	Cu. E		↙° ●° a. ∪² p.
24	54.51	25.5	28.3	23.5	90	N, NNW	1.8	10	Ci.-S.	Cu.,N. NNE, N	37.3	● p.
25	54.26	26.6	30.5	23.3	86.5	S	1.2	10	Ci.-S.	Cu. SW		d° ● a. ∪² ⊽² p.
26	57.62	26.2	31.9	22.6	85.7	S	1.2	3.3	Ci.	Cu.		
27	56.95	26	32	22.7	87.8	N quad.	1.7	8	Ci.-S.	Cu.,Fr.-N. N,NE	66.2	d² ●² p.
28	53.65	25.6	29.2	23	87.2	NNE, SE	3.3	10	Ci.-S.	N. NE, SSE	79.2	●² a. p. d° p.
29	57.44	26.4	30.3	23.5	86.8	S	2.5	9.2	Ci.-S.	Cu.	18.2	● ↙° p.
30	59.23	26.8	31.6	22.8	86.3	SW quad.	.7	7.7	Ci.-S.	Cu.	1.8	● a.
Mean	757.35	26.5	31.9	22.8	84.8		1.1	5.5				
Total											[b]200.5	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.12					SW quad.	1	8.5		N. SSW	7.4	● a. d a. p.
2	59.33					Variable.	1.2	4.7	Ci., Ci.-S.	Cu.-N.		
3	59.36					Variable.	.8	.2	Ci.	Cu.		☊ a.
4	58.68					Variable.	.7	1.8	Ci., Ci.-S.	Cu.-N. NNE	5.1	☊ d° a. ● p.
5	57.10					W	1.8	9		N. WNW	228.6	●² a. p, ⌐⊻ p.
6	55.58	27	29.6	22.7	81	NE quad.	2	6.3	A.-Cu.	Cu.-N.		⌐⊻ a. ↙ p.
7	58.70	26.2	29.8	22.3	87.7	E quad.	1	5.8	Ci. NE	Cu.-N. ESE	26.9	d° ●² ⌐⊻° ◠ p.
8	59.43	25.6	29	23	87.5	S quad.	.8	9.7	Ci., Ci.-S.	Cu.-N. NNW, NE by E	36.8	● a. ●° p.
9	58.24	26.2	30	22.9	87.2	NE quad.	1	5.7	A.-Cu., Ci.	Cu.-N.	5.6	● ◠ a. p,
10	58.06	26.7	30.5	23.4	86.3	NE quad.	1.2	4.3	A.-Cu.	Cu.-N.	10.4	d° ● a.
11	58.77	27.2	31	23.7	83.7	NE quad.	.5	1	Ci.	Cu.-N. ENE	.3	☊ d ● a.
12	58.88	27.3	31.3	23.4	84.7	ENE	1.2	.7	Ci.	Cu.-N.		☊ a.
13	58.14	27.4	31.5	23.6	80.5	ENE	1.2	.5	Ci.	Cu.-N.		↙° p.
14	58.26	26.6	31.6	23	83.2	E quad.	.8	1	Ci.	Cu.		☊ a. ⊽ p.
15	58.77	27	32	23.5	83.8	E quad.	1.2	1.3	Ci.	Cu.		☊ a.
16	58.66	27.6	31.7	23.4	82.2	ENE	1.3	3	Ci.	Cu. ESE		☊ a. ●° p.
17	58.31	26.5	31.3	23.8	86.7	E quad.	.8	6.7	Ci.	Cu.-N. E	51.3	● a. p. d p.
18	57.93	27	32	24	83.7	ENE	.5	3.5	Ci.	Cu.-N. E		● a.
19	57.72	26	30	22.9	85.7	SW quad.	1.3	3.8	Ci.	Cu.-N. NNE	.3	☊ a. ⊽ d p.
20	57.18	26.4	30.4	23.6	83.5	W quad.	.7	4.3	Ci., A.-Cu.	Cu.-N. N	7.4	○ a. ↙° ● p.
21	57.07	26.3	31.2	23.4	79.8	SW quad.	.8	0	Ci.	Cu.		
22	57.33	25.9	30.5	23.1	87.2	W quad.	.8	7.3	Ci., A.-Cu.	Cu.-N. NNW	65.8	d a. p. d° ●² p.
23	56.41	26.5	28.5	23.9	86.5	NW	2	9.5	Ci.-S.	Cu.-N. NNE	5.8	● d² a. ∪ p.
24	52.16	25.4	26.5	24	90.5	W quad.	3.2	10		N. NW, W	95.8	⌐⊻ a. ●² a. p.↙ p.
25	54.76	26.9	31	22.6	80.5	SW quad.	1.2	7.7	A.-Cu.	Cu.-N. S	2.3	◠ a. ● ⊽ p.
26	57.47	26.6	31.1	23.5	87.8	NW quad.	.5	4.2	A.-Cu.	Cu.-N. NNE		☊° p.
27	56.40	26.2	28	24.3	89	NW	2	10		N. N quad.	63.2	●² a. p. ⌐⊻° p.
28	54.28	25.5	27.4	23	89.7	E quad.	2.8	10		Cu.-N. ESE, SE	55.4	↙° ⌐⊻ a. ●² a. p.
29	57.78	26.2	30.5	22.9	86.3	ENE	.7	8.7	A.-Cu.	Cu.-N.		↙° p.
30	59.31	26.7	31.3	23.9	86	E quad.	.7	6.2	A.-Cu.	Cu.-N.	6.6	● d p.
Mean	757.61	26.5	30.3	23.4	85.2		1.2	5.2				
Total											675	

[a] All the mean values given in these tables are deduced from six daily observations.
[b] 20 days of observation only.

Meteorological data for first and second class stations—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5[a] meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.82	24.6	26	23.2	91.2	W quad.	0.8	9.8		Cu.-N. NNE, WSW	69.9	● a. ●[2] ⊤ ≤ p.
2	58.85	26.6	30.9	24	79.5	S quad.	.8	6	Ci.-S., A.-Cu.	Cu.-N. S, SSW	-------	☾° a. ☾ ≤ p.
3	59.19	27	32	23.5	77.8	Variable	.7	3.3	Ci.	Cu. S	-------	☊ a. p. ☾ ≤ p.
4	58.49	27.2	31	24.3	76.3	E	.8	3.8	Ci.	Cu. NE	-------	☊ a. d° ☾ p.
5	57.70	26	30	23.5	79	N quad.	.8	8.3	Ci.-S. E	Cu.-N. NNE	42.7	☊ ☾ a. ● p.
6	55.35	26.1	29.6	23	83.8	S quad.	1.8	8.8	Ci.-S.	Cu.-N. SE, SSE	21.1	● a. p. ⊤ ≤ p.
7	58.68	27.3	30.9	24.1	80.7	NE quad.	.8	6	Ci., Ci.-S.	Cu. E	-------	☊[2] a. ≤ ☾ p.
8	59.19	------	------	------	------	NE quad.	.7	5	Variable	Cu. NE	-------	☊ a. ☾ p.
9	58.28	------	------	------	------	NE quad.	.7	4.5	Ci., A.-Cu.	Cu. E	-------	☊ a. ☾ p.
10	57.97	------	------	------	------	NE quad.	1.2	3.8	Ci.	Cu. E	.5	☊ a. ●° p.
11	58.80	------	------	------	------	E quad.	.7	2.3	Ci.	Cu. E	-------	☊ a.
12	------	------	------	------	------	------	------	------	------	------	-------	
13	------	------	------	------	------	------	------	------	------	------	-------	
14	------	------	------	------	------	------	------	------	------	------	-------	
15	------	------	------	------	------	------	------	------	------	------	-------	
16	------	------	------	------	------	------	------	------	------	------	-------	
17	58.41	28	31.4	25	69.7	NE quad.	1.3	2.8	Ci.	Cu. E	-------	☾ p.
18	58.23	28	31.1	25.4	67.7	NE	1.3	2.7	Ci.	Cu. E	-------	☾° p.
19	57.76	27.9	31	24.5	72.7	NE quad.	.8	3.5	Ci., A.-Cu. NE	Cu. NE quad.	-------	☊ a. ☋ ≤ p.
20	57.49	28.3	32.6	25	70.2	N	1	4.3	Ci., Ci.-S.	Cu. NNE	-------	☊ a. ○ a. p. ☾ ≤ p.
21	57.26	27.8	31.9	24.9	70.3	NE quad.	1	3.3	Ci.	Cu. N	-------	☊ a. ☾ p.
22	57.60	28	31.8	24.5	74	E	.7	5.2	Ci.	S.-Cu. ENE	2	☊ a. ☾° a. p. ●° p.
23	57.03	27.7	32	25.1	69.7	NE quad.	1.7	6.8	Ci.-S.	Cu. NNE	-------	☊ a. ☾ p.
24	54.11	26.8	28.5	23.1	81	Variable	1.2	9.5	Ci.-S.	Cu.-N. N	143.2	●[2] p.
25	53.43	26.1	29.6	23	81	SW	5.7	6.7	Ci.	Cu., Cu.-N. SW	-------	☇[2] ●[2] a.
26	57.75	27	31.2	23	76.5	NE quad.	.7	2.8	Ci.	Cu. E	-------	☊ a.
27	57.11	27.5	31.7	24.4	74.3	N	.7	7.3	Ci.-S. SE	Cu., Cu.-N. NNE	13.7	○° a. ● ☾ p.
28	54.32	26.3	28.6	24.3	85.7	NE quad.	3.5	9.2	Ci.-S., A.-Cu.	Cu.-N. NE	2.5	● a.
29	57.53	27.7	31.4	24.8	75.7	SW quad.	1	7.5	A.-Cu.	Cu., Cu.-N. S	7.9	☾ ☋ a. d p.
30	59.18	28.2	31.9	24.2	75	Variable	.8	5.7	A.-Cu. E	Cu. NE	63	⊤ ● a. ☾ ☊ p.
Mean	757.50	27.1	30.7	24.1	76.8	------	1.2	5.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	[b]366.5	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6.5 meters; gravity correction not applied, —1.84 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.33	25.6	29.9	23.9	88.3	Variable	0.7	9.7	Ci.-S.	Cu.-N. N	105.4	d ● ≤ ⊤ ☾ p.
2	58.20	25.7	28.5	22.9	85.2	SW	1.3	8.3	Ci.-S.	Cu.-N.	2	●[2] d a.
3	59.12	26.3	30.5	22.1	80.7	SW	.7	2	Ci., Ci.-S.	Cu.	-------	☊ a. ≤ p.
4	58.71	26.3	30.5	23.6	81.5	NE	1.3	3.8	Variable	Cu.	-------	☊ d a.
5	58.47	25.8	29.8	22.9	83.8	NE quad.	1.3	8.2	Ci.-S.	Cu.-N., Cu.	16	☊ a. d ● ≤ p.
6	55.40	24.6	28.7	22.7	91.5	NW quad.	2.8	10	Ci.-S.	N., S.-Cu. SE	80	● ☇° a. ⊤ ☾ ●[2] p.
7	58.43	26	30.9	22.9	85	NE, N	1.5	8.2	Ci.-S.	Cu.	22.1	☾ ● p.
8	59.27	26.1	30.4	22.6	82.3	NE	2.3	6.8	Ci.	Cu.	14.7	d ● ≤ p.
9	58.23	26.4	29.7	22.5	79.3	NE	2.3	4.5	Ci.	Cu. NE	1	● a.
10	57.96	26.5	29.9	23.6	80.8	NE, N	2.2	3.5	Ci.	Cu. NE	-------	●° a. d° p.
11	58.76	26.9	30.7	24.3	82.8	NE, N	2	3.3	Ci.-S.	Cu. NE	-------	☊ a. ≤ ⊤ p.
12	58.54	26.6	30.1	24.6	86.7	NE, N	1.7	7.2	Ci.-S.	Cu.	4.5	d ● a. ≤ p.
13	57.89	27.2	31.4	24.7	81.2	N	2	2.8	Ci., Ci.-S.	Cu.	-------	☊ a.
14	58	26.8	30.7	24	81	N, NE	1.7	1.7	Ci.	Cu.	-------	☊ a. ≤ p.
15	58.56	26.9	31.3	23.6	82.3	N, NE	2.2	2.2	Ci.	Cu. NE	-------	☊ a.
16	58.31	27.4	31.8	23.7	80.5	N, NE	1.5	4.5	Ci.	Cu.	-------	☊ a.
17	57.97	27.1	31.5	23.6	76.7	N, NE	1.7	2.7	Ci., Ci.-S.	Cu.	-------	☊ a.
18	57.93	27	31.5	23.7	73.7	N, NE	2.2	1.2	Ci.	Cu. NE	-------	☊ a.
19	57.93	26.4	31.5	22.4	79	NE	1.5	3	Ci.	Cu. NE	-------	☊ a.
20	57.45	26.6	31	22.9	79.5	NE	1.2	3.7	Ci.	Cu. N	-------	☊ a. ☋ p.
21	57.28	26.9	32.2	22.5	80.8	NE, N	1.3	6.5	Ci.	Cu.	-------	☊ a.
22	57.75	25.6	29.6	23.7	87.3	NE	1.3	8.7	Ci.-S.	Cu.-N. NE	24.4	d ● a. p.
23	57.13	26.2	29.4	23.5	79.7	N	2	9.8	Ci.-S.	Cu.-N. NE	-------	
24	55.68	26.2	29.5	23.5	81.5	N	1.8	10	Ci.-S.	Cu.-N. N	60.6	☊ a. d ●[2] p.
25	52.52	------	------	------	------	SW	3.7	9.8	Ci.-S.	N.	43.7	●[2] ☇ a.
26	57.45	25.4	30.7	20.5	80.5	NE	.7	1.7	Ci.	Cu.	-------	☋ p.
27	57.63	26	30.5	22.5	81.5	NE	1.3	6.8	Ci.-S.	Cu.-N.	10.7	☊ a. d ● p.
28	53.78	26	28.5	23.2	86.3	N, NE	4	10	Ci.-S.	Cu.-N. NNE	17.2	d ● a. p. ☇° p.
29	56.86	25.4	29.4	22.9	84	SW quad.	1	10	Ci.-S.	Cu.-N., Cu.	7.6	● a. p. ●° d ≤ p.
30	58.82	26.6	31	22.6	80	SW	.7	5.7	Ci.-S.	Cu.	.5	≤ p.
Mean	757.61	26.3	30.4	23.2	82.2	------	1.7	5.9	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	410.4	

[a] Beginning with November 17, the height of the barometer above sea level is 9 meters. [b] 25 days of observation.

Meteorological data for first and second class stations—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.94	25.4	28.3	22.9	93.3	NNW, SE	0.5	9.7	Ci.-S.	Cu.-N. N,NE	78.3	d ● a. p. ⊤ ●² p.
2	59.32	26.6	29.9	23.2	79.7	SE quad.	1.3	8.3	Ci.-Cu. SW	Cu.-N. SSE	-------	● a.
3	59.58	25.1	31.1	21.9	90.7	N	.2	3.5	Ci.-S.	Cu.-N. E	13.5	☊ a. ⊤ ⸜ ● p.
4	58.87	26.2	32.3	21.5	81.5	SW	.3	6.5	Ci.-S.	Cu.-N. NE	.3	☊ a. p p.
5	57.82	24.8	28.3	22.4	90.8	NW quad.	.7	8.7	Ci.-S.	Cu.-N. E	37.1	d a. p. ⊤ ⸜ ● p.
6	55.86	27.7	31.1	24.5	79	ESE	1.2	9.8	Ci.-S. E	Cu.-N. E, SE	6.6	● a. d ⊤ ⸜ p.
7	59.08	26.5	31.1	23.9	80.3	E quad.	.7	8.5	Ci.-S.	Cu.-N. NE	.3	d a. ⸜ p.
8	59.52	26.6	32.1	23	81.2	N quad.	.3	6.8	A.-Cu. N	Cu.-N NE	3	◠ ⌈ ◹ d ⸜ p.
9	58.60	26	30.9	23.2	83.8	N	.3	6.7	Ci.-S.	Cu.-N. E	4.8	p ⊤ ◠ d p.
10	58.29	25.9	31	23.1	85.2	N quad.	.3	6.7	A.-Cu. E	Cu.-N. NE	-------	p ⸜ p.
11	59.05	26.5	31.1	23.4	84.7	N quad.	.5	5.5	Ci.-S., A.-Cu.	Cu.-N. ENE	.8	⊤ d ⸜ p.
12	58.89	26.5	31.8	23.3	84.5	N quad.	0	5.8	Ci.-S.	Cu.-N. NE	-------	☊ a.
13	58.44	25.8	30.7	21.8	83.2	Variable	.5	4.8	A.-Cu. ENE	Cu.-N. NE	8.6	● ⊤ p.
14	58.37	26.2	31.7	20.9	82.3	N	.3	3	Ci.-S.	Cu. E	-------	☊ a.
15	58.89	26.6	31.1	22	82.2	N, NW	.3	4.2	Ci.	Cu. E	-------	◡ ⊽ p.
16	58.84	26.5	32.1	21.4	80.2	Variable	.3	2.3	Ci.	Cu. E	-------	☊ a.
17	58.45	27.1	32.7	21.2	74	Variable	.8	1.5	Ci.-S. W	Cu. E	-------	☊ a.
18	58.33	26.5	31.7	21	79.2	N, NW	.2	2.8	Ci.-S.	S.-Cu. E	-------	☊ a. ⸜ p.
19	57.80	26.8	32.6	21	77.2	NW quad.	.5	4.3	Ci.	Cu. NE	-------	☊ a. ⸜ ⊤ p.
20	57.42	26.6	32.2	22.3	81.5	NW quad.	.3	5.3	Ci.-S. E	Cu.-N. N	-------	
21	57.29	25.8	31.3	20.3	80.2	NW	.3	4.8	Ci.	Cu. NNW	1.3	d p.
22	57.74	26	31.6	23.9	90.5	N	.7	8.2	Ci.-S. E	Cu.-N. NE	44	p a. ● p ⸜ p.
23	56.93	26.7	31	23.1	81.3	NW quad.	.8	7.3	Ci. EbyS	Cu.-N. N	2	p a. ◡ ⊽ ⊽ p.
24	52.63	25.3	25.9	23.6	94.8	NW quad.	1.7	10	Ci.-S.	Cu.-N. NWquad.	(a)	⊤ ⸜² d a. ⸝ ● 2p.
25	51.73	26.8	29.5	23.6	87	SE	3.3	7.7	A.-Cu. S	Cu.-N. SSE	-------	●² ⸝² ⸜² ⊤² a.
26	57.64	26.3	32.9	21.3	81.8	SE	1	1.5	Ci., A.-Cu. ESE,E	Cu.	-------	☊ a. ⊽ p.
27	57.22	26.2	30.5	22.6	85.3	N quad.	1	7.5	Ci.-Cu. E	Cu.-N. N	36.8	⊕ a. p. d ● p.
28	54.86	26.8	30.6	23.9	83.7	SE quad.	1	10	Ci.-S.	Cu.-N. E quad.	26.4	● a. d a. p. ⸜ p.
29	57.86	26.9	30.5	22.9	80.2	E quad.	1	8.7	A.-Cu., Ci.-S.	S.-Cu. S	-------	⌈ ◹ d ● a. ⸜ p.
30	59.40	27.2	31.6	23.6	78.3	Variable	.7	7.3	Ci.-S. NE,E	S.-Cu. NE	-------	☊ a. ⸜ ⊤ p.
Mean	757.76	26.3	31	22.6	83.3	----------	.7	6.3	----------	----------	-------	
Total	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	263.8	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 3.4 meters; gravity correction not applied, —1.82 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.65	26.3	28.3	24.4	88.5	NW	1.8	9.7	----------	N. NE	40.4	● a. p. d⌈◹ p.
2	59.12	26.6	31	23	82.2	SE	1	7.3	Ci.-Cu., Ci. N	Cu. SE	6.9	● ⸜² a.
3	59.52	26.3	31	22.9	86.7	WNW	1	3.7	----------	Cu. SE	3.6	☊² a. ● p.
4	58.93	26.8	31.4	23.6	83.3	WNW	1	4.7	Ci., Ci-S.	Cu. NE	1.5	☰ ☊² a. ● p.
5	57.65	26	28	24	86	NW	1.8	9	Ci.	Cu.-N. N quad.	66.3	● a. ⸜ ●² ⌈◹ p.
6	56.58	26.8	30.6	24	85	ESE	2	8	Ci.	Cu. ESE	10.1	● a. p.
7	59.39	25.3	31	23.4	88.5	ESE	.8	8.5	Ci.-S. W	Cu.-N. E, ESE	30.8	●² ⸝° p.
8	59.84	26.3	31	23.5	84	NE quad.	.5	5.5	Ci.-Cu. W	Cu. SE	4	● a. p.
9	58.70	25.4	30.3	23.5	89.5	W	.3	6.7	----------	Cu.-N. E, ESE	38.2	● ◠ a. p. ●² p.
10	58.55	26.1	30.9	23.5	85.8	WNW	.5	5.8	Ci.-S. W	Cu.-N. E, ESE	6.6	● a. p.
11	59.13	27	31.5	23.2	85.8	NNW, S	.3	6.7	----------	Cu. ENE	.8	●° a. p.
12	59.17	26.3	30	24.8	89.8	WNW, ENE	.8	7.3	Ci.-S. W	Cu.-N. ENE	.5	●° p.
13	58.48	27	30.8	23.8	82.8	WNW	.8	3.8	Ci.	Cu. ENE	-------	
14	58.49	26.9	31.9	23.6	83.2	NW quad.	1	4.7	----------	Cu.-N., Cu. ENE	-------	☊² ☰ a. ⸜ p.
15	58.97	27.5	33	23.4	80.7	Variable	.7	3.2	Ci. W	Cu. NE, E	-------	☊² a. ⊽² p.
16	59	27.4	31.4	23.5	78.7	SE quad.	.8	3.7	Ci.-S. WNW	Cu. E	-------	☊² a. ⊽² p.
17	58.51	27.5	31.6	23.9	79.7	WNW	.8	1.3	----------	S.-Cu., Cu.	-------	☊² a.
18	58.36	27.1	33	23.5	82.7	W quad.	.7	2.7	----------	Cu. ENE	3	☊² a. ● p.
19	57.94	27	32.3	24.2	83	NW	1.3	4.3	Ci.	Cu.,Cu.-N. NNE	-------	☊² a. ⊽² p.
20	57.31	27.3	31.4	25	81.5	NW	1.3	5.7	Ci. ESE	Cu. N	-------	☊² a. ◯² ◡² ⊽² p.
21	57.09	27.1	31.7	23.2	81	NW quad.	1	5.5	Ci. E	Cu. NW	-------	☊² a. ◯² a. p.
22	57.62	26.3	31	25	87.5	WNW	1.2	8.2	Ci.-Cu., Ci.-S.	Cu. N	22.6	● a. p. ⌈◹ p.
23	56.87	27	30.9	24.9	81	NW,NNW	2.2	8.2	Ci. ESE	Cu.-N., Cu. N	-------	◯² a. p. ◡² p.
24	50.09	25.6	27	23.6	b89.2	NW	5	10	----------	N. N	(c)	●² a. p. ⸜² ⸝² p.
25	53.56?	d	------	------	------	SE quad.	4.7	8.8	----------	Cu.-N. SE	2.5	●² ⸝² ⸜² ⊤ a.
26	57.95	------	------	------	------	SE	.7	6.8	Ci., Ci.-Cu.	Cu. SE, ESE	-------	
27	57.63	------	------	------	------	NW quad.	1.3	7.5	Ci.	Cu.-N,N.SE,ESE	13.5	● ⌈◹ p.
28	55.66	------	------	------	------	E quad.	1.2	9.2	Ci.-Cu.	Cu.-N. ESE	9.4	d a. ● p.
29	58.53	------	------	------	------	E, ESE	.5	8.7	----------	Cu.-N. E	-------	● d a.
30	59.86	------	------	------	------	E quad.	.7	7	Ci.-S. ESE	Cu.-N. S	1.3	
Mean	757.87	26.6	30.9	23.8	84.4	----------	1.3	6.4	----------	----------	-------	
Total	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	262	

[a] Rainfall for this day is omitted as the raingauge could not be observed after 10 p. m. [b] Deduced from five observations only. [c] Rainfall for this day is omitted as the raingauge could not be observed after 6 p. m. [d] The thermometer shelter was destroyed during the typhoon of the 24th–25th.

Meteorological data for first and second class stations—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6.6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction.			
									Upper.	Lower.		
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.32	27.2	31	25.1	87.7	NW quad.	2	8.7	Ci.-S.	Fr.-N. N	20.1	●° a. ⊤° ● ≤ p.
2	58.38	26.3	31.3	24.4	87.5	SE quad.	1	7.2	Ci.-S. ESE, SSE	N. SE quad.	6.9	● a.
3	59.13	26.3	30.8	22.8	89.2	NE, ENE	.3	3.8	Ci.	Fr.-Cu. SE	9.7	●° ⌐ ↗ p.
4	59	26.3	31	23.8	87.3	NE, ENE	.3	5.2	Ci.-S. NE	Cu. NE	.3	d° ⊕° ○° a.
5	58.66	26.7	30.5	23.9	82	N	1.7	10	Ci.-S.	N. N	29.9	●° a. ⊤° p.
6	55.82	26	29.4	23.2	90	NE quad.	2.5	9	Ci.-S. N	N., Fr.-N. N, E	45.7	↙° ●² ⊤° a. ● ≤ p.
7	58.85	26.1	31	23.3	88	SSE, E	1	7.2	Ci.-S.	Fr.-N. SE, E	1.8	≤ d° a.
8	59.72	26.9	31	24.4	84	E, NE	1.2	5.3	Ci.	N., Cu. E, NE	.5	●° d a.
9	58.70	26	31	24	86.2	NE	.3	4	Ci.	Cu. ENE, NE	5.1	⊤° ● ≤ p.
10	58.43	27	30.9	25.1	82.2	NE quad.	1.3	6.5	Ci.-S.	N. NE	.3	d° p.
11	59.25	27.1	31.2	25.3	84.3	NE, N	1.3	7.2	Ci.-S.	N. NE	23.1	●° a. ⊤° ● ⌐ ↗ p.
12	59.02	26.8	30.4	25	90	N quad.	1.3	7.3	Ci.-S.	N. NE	5.1	⊤° a. ●° a. p. ≤ p.
13	58.29	27.3	30.9	25.1	85.5	ENE	1.3	4.5	Ci.	Cu., Fr.-Cu. ENE	-------	●° a.
14	58.44	26.5	30.7	23.4	83.7	NE quad.	.5	1.7	Ci.	Cu. NE	-------	≡° a. ≤ p.
15	59.14	27.1	30.9	24.7	84	N	.5	2.7	Ci.	Cu. NE	1.5	≤ p.
16	58.70	27.1	31.4	25	85.8	N, NNE	.3	4.3	Ci.	Cu. NE	1	●° a. ⊎° p.
17	58.36	26.9	31.4	23.3	86	NE	.3	3.2	Ci.	Cu. NE	-------	●° a. ∞° ≤ p.
18	58.58	26.4	30.9	23.7	84.2	NE	.5	2.8	Ci.	Cu. NE	.5	∞° ≤ p.
19	58.30	26.3	30.9	23.8	84.5	N, NE	.7	4.2	Ci.	Cu. N, NE	-------	●° a. ≤ p.
20	57.64	27.4	31.2	25.2	83.8	N	1.2	4.3	Ci. N	Cu., Fr.-Cu. N	-------	d° a. ⊎° ⊎° ≤ p.
21	57.53	26.8	31.2	24.4	84.2	N	1.2	6.2	Ci.	Cu. NNW	6.1	d p.
22	58.06	26.4	30.2	24.2	85.5	N	1.7	9	Ci.-S.	N. N	11.5	● a. ⊎ ●° p.
23	57.70	27.1	30.4	25.5	79.7	N	2	7.5	Ci. N	Fr.-N. N	-------	⊕° ○° a.
24	55.82	26.7	30.3	25.1	85.2	N	3.2	9.5	Ci.-S.	Fr.-N. N	63.2	d° ↙° ● p.
25	48.90	[a]23.8	26.4	21	[a]93.6	SE quad.	5.2	8.5	Ci.-S.	N. Variable	95.3	↙² ●² a.
26	57.70	24.8	31.7	20.1	85.7	N	.3	1.8	Ci.	Cu.	-------	⊎² p.
27	58.23	26.5	30.7	23.6	85.7	NW quad.	1	8.2	Ci.-S. N, NNE	N. NW	39.5	⊕ ○ a. d p.
28	54.97	26.6	29.4	24.3	88	NE quad.	3	10	Ci.-S. N, NE	N, Fr.-N. NE quad	22	● a. p. ⊤° ≤ p.
29	57.26	25.1	30.2	23	91.2	S	.7	9.5	Ci.-S.	N. S	8.4	● a. p. ⊤ ≤ p.
30	59.10	25.7	30	23.4	89.5	Variable	.5	7.2	Ci.-S. NE	N., Fr.-N. SE, S	27	● ⊤ a. p. ≤ p.
Mean	757.87	26.4	30.6	24	86.1	----------	1.3	6.2	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	424.5	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.80 mm.]

	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.76	26.3	30.7	24.4	89.8	NE	0.8	8.2	Ci.-S.	S.-Cu. NNE, NE	2.1	●° ⊤ d° a. ≤ a. p.
2	59.17	26.6	30.9	23.6	82.8	E quad.	.7	4.8	Ci.-S.	S.-Cu. SSE	1.5	●° p.
3	59.42	25.8	30.9	23	88.5	N, S	.3	2.8	Ci.-S., A.-Cu.	S.-Cu.	7.4	☊ a. ⊤° d° ● ≤ p.
4	58.97	26.4	33.2	22	81.5	N quad.	.7	4	Ci.	S.-cf., Cu. NE, NNE	-------	☊² a. d° p.
5	57.85	25.4	29.9	22.2	89.3	N quad.	.8	8.2	Ci.-S.	S.Cu. N by E, N	75.4	☊ ● a. ●² ⊤° ≤ p.
6	56.58	26.4	30.7	23.9	87	ESE, NE	1	8.2	A.-Cu.	S.-Cu. ESE	2.3	● ⊤° a. d° ≤ p.
7	59.23	25.6	30.5	23	88.8	NE quad.	.7	7.8	A.-Cu., Ci.-S.	S.-Cu. E	1.1	d a. p.
8	59.80	25.8	32.2	22.9	87.2	N quad.	.3	3.3	Ci.	S.-cf., Cu.-N. NE	2.5	☊ a. p° p.
9	58.72	25.1	30.9	22	88.8	N	.5	3.8	A.-Cu. E	S.-Cu. NE, ENE	8.8	☊ ● a. d° p.
10	58.44	26	32.6	22.4	86.5	NE, NNE	.5	4.3	Ci., Ci.-S.	S.-Cu. NE	-------	d² a.
11	59.03	26.3	31.1	23.3	89.8	N quad.	.7	5	Ci.-S.	S.-Cu. NE	8.4	☊ a. ● d ≤ p.
12	58.96	26.2	30.5	23.8	90.8	NNE	0	6.3	Ci.-S.	S.-cf., N. ENE	10.4	● a. ⊤ ●° p.
13	58.42	25	29.6	22.4	91.8	N quad.	.5	5.2	Ci.-S.	N. ENE	11.1	d° a. ● ⊥ p.
14	58.38	24.6	30.3	21.4	92.2	N quad.	.5	4.5	Ci.-S.	S.-Cu. ENE	37.3	☊² a. ●² ⊤² ⌐ ↗ ≤ p.
15	58.85	25.7	30.9	22.4	90.2	Variable	.3	2.7	Variable	Variable NE, ENE	3.8	☊² a. d² ⊤² ◠° ● p.
16	58.77	26.3	31.9	23	85	Variable	.5	2.7	Ci.	S.-Cu. ESE	-------	☊ a. ⊤° ≤ ⊎ p.
17	58.55	25.8	31.6	22.5	88.5	N	.8	2.7	Ci.-S.	S.-Cu. ENE	2.5	☊ a. ●° ⊤° ⊎ p.
18	58.20	26	32.9	21.1	86.2	N quad.	.8	1.7	----------	Cu. NE	-------	☊² a. ≤° ⊤ p.
19	57.98	26	32.6	22.4	87.7	N quad.	.5	5.2	A.-Cu. E	S.-Cu. N	1.3	☊ a. d° ⊎° p.
20	57.39	26.1	31.3	23	87.3	NNW	.2	5.8	Ci.-S.	S.-Cu. N	1.6	◠° d a. p° ⊎° p.
21	57.24	25	30.9	21.4	91.5	N quad.	.5	7.3	Ci.-S.	S.-Cu. NNW	13.4	☊² a. ● a. p. d° p.
22	57.56	26.3	30.4	24	89.2	N quad.	.5	7.7	Ci.-S.	S.-Cu. N	1.6	d a. p. ⊎ ⊎ p.
23	57.13	26.1	31.1	24	87.7	N	.5	7	Ci.-S.	S.-Cu. N	17.3	d° ●° ⊎ p.
24	52.93	25	27.7	23.5	94.2	NW quad.	1.5	10	Ci.-S.	N. N	50.3	● a. ●² p.
25	52.64	26.4	30.7	22.7	84.5	E quad.	2.7	6.2	Ci.-S., A.-Cu.	Fr.-N., S.-Cu. SE	-------	↙° ● a.
26	57.74	26.1	31.3	21.9	89	N	.5	2.2	Ci.-S.	Cu. NNE	-------	☊ a. ⊎ a. p.
27	57.47	25.7	31.3	22.7	89.7	N quad.	.5	7.7	Ci.-S. E	S.-Cu. NNE, N	40.7	☊ a. ●² ⊤ ≤ p.
28	55.44	26.2	30.1	24.5	92.3	NE	1.2	9.8	Ci.-S.	N. E quad.	28.7	● a. p. ◠° ≤ p.
29	57.88	25.3	28.5	22.4	92.8	E	.2	9.3	Ci.-S.	S.-Cu. SSE	24.9	● a. p.
30	59.28	25.6	30.5	21.7	89.2	SE quad.	.7	6.8	A.-Cu. SE	S.-Cu. E	-------	
Mean	757.86	25.8	30.9	22.8	88.7	----------	.7	5.7	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	354.4	

[a] Deduced from five observations only.

Meteorological data for first and second class stations—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.75	27.3	31.1	23.3	85.3	NE	1.8	6.2	Ci., Ci.-S.	Cu. NE, ENE	26.2	d° ● a. ●² ≤ p.
2	59.24	27.2	31.5	22.4	84.7	E	1.5	5.8	Ci.-S.	N., Cu.-N. SE	15	● a. p.
3	59.51	27.7	32.6	22.4	83.8	NE	.8	2.5	A.-Cu.	Cu. SE	-------	
4	59.29	27.8	32.7	23.4	81.2	NE, E	1	2.2	Ci. E	Cu.	-------	
5	58.68	27.4	31.4	23.7	78.2	NNE	1.8	8.2	Ci.-S.	Fr.-Cu. ENE, NE	18.3	d° a. p.
6	57.14	26.8	28	23.1	88.8	NE quad.	2.5	10	Ci.-S.	Fr.-N. ENE, E	20.8	⊤° a. ● a. p.
7	59.71	26.2	28	23.5	88.3	E	1.3	8.3	Ci.-S.	Cu.-N., N. E, ENE	6.3	● d a. d° p.
8	60.14	26.9	30.9	23	83.5	NE, ENE	1.5	2.2	Ci.	Cu., Cu.-N. ENE, NE	7.8	● a. p.
9	58.99	27	30.2	23.5	81.3	NE quad.	1.2	2.7	Ci., Ci.-S.	Cu. ENE	34.1	◠ d a. ● a. p.
10	58.79	26.7	30.8	22.2	84.8	NE quad.	1.3	4.7	Ci.-S.	Cu. ENE	3.6	● a. p.
11	59.51	27.4	31.5	24.4	81.3	NNE	1.3	4.7	Ci., Ci.-S.	Cu. ENE	4.1	d ●° p.
12	59.48	26.9	29.7	24	89.2?	NE	1.5	6.7	Ci.-S.	Fr.-N., Cu. ENE, NE	.9	d a.
13	58.83	25.9	28.6	23.1	91.5	NE, NNE	.3	5.5	Ci.-S.	N. ENE	24.6	● a. p.
14	58.59	26.4	32.4	19	83.5	ENE	.2	2.2	Ci.-S.	Cu. NE, E	-------	d a. ≤° p.
15	59.11	26.7	33.5	20.6	83.3	NNE, NE	.3	1.7	Ci.	Cu., Fr.-Cu. ENE	-------	
16	59.06	27	32.5	20.6	86.3	NNE	.2	4	Ci.-S., A.-Cu.	Cu. ENE	14.7	
17	59	27.8	32.4	22.5	81.7	ENE	.3	2.2	----------	Cu. E, ESE	-------	● a.
18	58.69	27.3	33.2	21.4	82	ENE	.2	1.3	----------	Cu. E	-------	
19	58.33	27	33.1	19.8	79.5	NNE	.8	1.3	Ci., A.-Cu.	Cu. ENE	-------	
20	57.54	27.2	32.1	21	77.7	NNE	1.3	3	Ci.	Cu. NE, N	-------	
21	57.52	24.7	28.2	20.5	91.3	NNE	.7	8.3	Ci.-S.	N. NNE	10.7	d ● a. p.
22	58.08	26.5	30.1	23	81.3	NNE	1.7	2.3	Ci.	Cu. NNE	-------	d° a.
23	57.67	26.8	30	23.9	78.5	NE quad.	2	5.3	Ci.-S.	Cu. N	2.3	◡ ● p.
24	55.22	25.8	27.5	22.9	91	N	2.7	9.8	Cl.-S.	Fr.-N. NNE	31.7	● a. p. d p.
25	54.31	26.1	31.1	21.3	86.7	E quad.	2	9	Ci.-S.	Fr.-N. E, ESE	.5	d ● a. p p.
26	58.02	26.6	32.7	19.9	83	E quad.	.7	1.7	Ci.	Cu.	-------	
27	58.21	26.8	31.5	21.9	84	NNE	1.2	4.5	Ci. ENE	Cu. NE	1.3	
28	56.33	27	29.4	23.5	89	NE quad.	2.3	10	Ci.-S.	Fr.-N. ENE	100.9	● a. ≤ ●² p.
29	57.96	25.8	28.6	22.3	91.5	E, ENE	1.3	10	Ci.-S.	Fr.-N. E	3.5	● d² a. ●° ≤° p.
30	59.45	25.5	30.5	21.9	89.2	ENE	.2	9.5	Ci.-S.	N., Cu. S	5.1	○ a. ⊤ ● p.
Mean	758.37	26.7	30.9	22.3	84.7	----------	1.2	5.2	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	332.4	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.74 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.66	27.4	29.5	25.5	85	N	2.7	7.2	Ci. ENE	S.-Cu. NE	20.8	●° a. p. d° p.
2	59.26	27.2	30.5	24.7	84.8	NE quad.	1.8	5.8	Ci.	Cu. E	-------	● a.
3	59.52	25.8	30	23	88.7	SW	1	5.2	Ci., A.-Cu. E	S.-Cu., Cu. SE	6.4	☋° ♌ d° a. ●° p.
4	59.52	26.4	29.9	22.6	86.2	NE quad.	1.7	3.8	Ci.	Cu., S. NE	1.8	♌² ≡ a. ●° ≤° d° p.
5	59.87	26.5	28.3	25.6	81.2	N quad.	3.7	8.5	Ci.-S. SE	S.-Cu. NE	8.9	◯° a. ◠² p. d° a. p.
6	58.11	26.5	27.3	25.1	86.5	NE quad.	5.3	8.5	Ci.-S.	N. NE	34.3	⊤⊻° a. ↙ ● a. p. ≤ p.
7	59.74	26.7	29.2	25	84	NE	1.2	9	Ci.-S. E	S.-Cu. E	-------	
8	60.50	26.7	30.4	23.3	84.7	NE	2	4.3	A.-Cu. ENE	S.-Cu. NE	-------	
9	59.49	27.2	29.5	25.6	82	NE	2.7	4	A.-Cu. E	S.-Cu., Cu. NE	.8	◠ ●° a.
10	59.36	27.3	29.3	24 9	81.5	NE quad.	3.5	5.7	Ci.	S.-Cu. NE	3.8	d a. ●° a. p.
11	60.17	27.1	29.6	25.2	83.8	NE	3	6.8	A.-Cu. E	Cu., N. NE	6.3	●° a. p. d° ≤ p.
12	60.16	27.5	29.6	25.4	82.2	NE	3.7	8.7	Ci.	S.-Cu. NE	.3	d° p.
13	59.25	27.6	30	25.5	81.2	NE	2.7	5.3	A.-Cu. E	S.-Cu., Cu. NE	4.6	
14	59.17	26.2	28.3	24.4	85.7	NE, N	2	7	A.-Cu. E	S.-Cu. NE	5.2	◠² a. ●° a. p.
15	59.77	26	27.8	24.9	88.7	N	3.3	9.3	A.-Cu. NE	S.-Cu., N. NE	31.3	●² a. d° a. p. ●° p.
16	59.56	25.7	27.5	23.9	89.7	N	2.7	9.3	A.-Cu. ENE	N. NE	54.4	●² a. d° p.
17	59.18	26	28.8	23.7	87.8	N	1.8	6.3	Ci.-Cu., A.-Cu. E	S.-Cu. NE	.3	● d² a. ☋° p.
18	58.93	26.7	30	24.9	85.3	N	1.8	4	Ci.-Cu.	S.-Cu., Cu. NE	2.5	d° a. ● p.
19	58.89	27.1	29.5	25.4	82.3	N	1.7	2.8	Ci.	Cu., S.-Cu. NE	-------	☋² p.
20	58.36	27.3	29.4	25.3	81.7	N	3.5	6.2	Ci.	S.-Cu., Cu. NE	50.8	d° a. ☋² p.
21	58.31	25.6	26.6	23.8	87.7	N	4.7	8.8	A.-Cu. E	S.-Cu., N. NE	19.9	●² a. ☋° p.
22	58.97	25.9	28	24.2	81.3	N	4.8	9.3	A.-Cu. NE	S.-Cu. NE	2.3	●° d° a. d² p.
23	58.85	26.1	27.4	23.9	80.5	N quad.	4.5	7.5	Ci. SE	S.-Cu. NE	8.2	●° a. ↙° d² ◡² p.
24	57.79	26.2	27.8	24.2	84.5	N quad.	6	9.5	Ci.-S. ENE	S.-Cu. NE	2.8	●° ↙° d° a. p.
25	54.64	25.2	26.9	23.3	92	N quad.	5.2	9.7	Ci.-S.	N., S.-Cu. NE	32	↙ a. ● a. p.
26	57.78	26.1	30	22.7	82.8	N	1.2	5.7	Ci. E	Cu. SSE	-------	☋° °◡ p.
27	59.01	26.3	29	23	87.5	N quad.	2.5	8.7	Ci.	S.-Cu. NE	10.2	d° p.
28	57.45	26.5	27.6	24.9	90.3	NE	4.3	10	Ci.-S.	N., S.-Cu. NE	36.6	● a. p. ↙° d² p.
29	57.69	24.7	26.5	23.1	93.2	NE, SE	1.5	10	Ci.-S.	N. NE, E	31	● a. p.
30	58.98	24.7	29	22.4	89.8	S	1.2	9.5	A.-Cu. S	S.-Cu. S	15.3	● a. p.
Mean	758.93	26.4	28.8	24.3	85.4	----------	2.9	7.2	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	390.8	

Meteorological data for first and second class stations—Continued.

PARACALE.

[ϕ=14° 17′ N; λ=122° 47′ E; barometer above sea, 5.3 meters; gravity correction not applied, —1.73 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P.ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.75	27.9	30.3	26	85.3	NE	1.8	6.7	Ci.	Cu. NE	14.5	p° a. ● p.
2	59.45	27.1	29.8	24.5	86.2	E	1.2	6.2	Ci.	Cu. E	1.8	● a. Ω p.
3	59.52	26.4	31.8	23.4	90	E	.5	4.3	Ci.	Cu. E	3.8	Ω² a. d ● p.
4	59.84	26.1	30.5	22.5	86	E	1	4.7	Ci.	Cu. E	2.3	Ω² ● a. Ω ↘ p.
5	59.91	26.9	29.4	22.5	84.3	NE, ENE	1.7	9	Ci.-S.	Cu. ENE, NE	7.4	d° a. ●° a. p.
6	58.50	26.5	27.6	24.1	89.8	NE, E	3.2	10	Ci.-S.	S.-Cu. NE	83.1	⊤ ● a. ⌈4 ↘ ●² p.
7	60.17	25.9	26.8	24.4	91.2	E	1.5	10	Ci.-S.	S.-Cu. E	7.6	● d a. p.
8	60.81	27.3	30.8	25	83.8	E	1.7	5.5	Ci.	Cu. E	3.6	◠ a. ● a. p.
9	59.69	26.8	29.8	25.5	85.8	E	1.8	4.2	Ci.	Cu. E	6.9	● a. p.
10	59.60	27.3	29.6	25	81.7	E	1.8	4.8	Ci.	Cu. E	1.3	● a. p.
11	60.32	27.7	30.3	25	82.5	ENE	2.2	6.2	Ci.	Cu. ENE	2.8	● a. p.
12	60.39	27.4	29.8	25.4	85.8	ENE	2.3	7	Ci.	Cu. ENE	4.8	●° d° a. ● p.
13	59.30	27.3	31.2	24.2	85.3	ENE	1.3	5	Ci.	Cu. ENE	.8	●° a. p. ◠ Ω² p.
14	59.22	26.6	30.3	24.2	86.8	ENE	1	6.5	Ci., Ci.-S.	Cu. ENE	36.9	Ω² a. ● a. p.
15	59.76	26.4	29.6	24.4	89.7	NE, ENE	1.3	8.3	Ci.-S.	Cu., S.-Cu. ENE	15.7	● a. p.
16	59.46	26.2	27	24.5	90.7	NE	1.2	10	Ci.-S.	S.-Cu. ENE	9.3	● a. d p.
17	59.20	26	29.8	24	90.5	E, ENE	.3	9	A.-Cu., Ci.-S.	Cu. E	9.5	● a. ●° Ω² p.
18	59.01	26.6	30.3	23.4	86.8	ENE, WSW	.3	5.3	Ci.	Cu. E	-------	● a. Ω² p.
19	59.09	26.4	30.3	22.5	86.2	NNE	.8	4.3	Ci.	Cu. NNE	3.3	Ω² a.
20	58.38	27.2	29.8	23.5	85.8	NNE	1.2	6.5	Ci.	Cu. NNE	58.7	● d a. p.
21	58.31	26.2	28.8	23.6	84.2	NNE	2.7	9.3	Ci.-S.	Cu., Cu.-N. NNE	9.5	●² a. ☋ p° p.
22	59.10	26.2	27.8	24	82.7	NNE	2	9.7	Ci.-S.	Cu., S.-Cu. NNE	1.1	● a. ●° p.
23	58.80	26.8	28.7	25.2	78.2	NNE	2.2	5.7	Ci.	Cu. NNE	3.6	● p.
24	57.60	26.9	28	25	80.2	NNE	4.3	9.3	Ci.-S.	Cu. NNE	16.7	↙° a. p. ● p.
25	55.26	25.8	27.3	24.2	89.7	NNE, E	2.8	9.3	Ci.-S.	Variable E	33.9	↙ a. ● a. p.
26	58.09	26.3	30.6	22.1	83.2	W, NE	.3	.7	Ci.	Cu. S, E	1	Ω a. d° p.
27	59.18	26.6	29.8	23.2	87.5	NE	1	7.5	Ci., Ci.-S.	Cu. NE	6.6	● a. p.
28	57.64	27.4	28.3	25.2	86.7	ENE	3.7	10	Ci.-S.	S-Cu. ENE	37.6	● a. p.
29	58.02	25.3	27.3	23.2	92.2	E quad.	2.5	10	Ci.-S.	S-Cu., N. E	20.9	↙° ●² a. ● p.
30	59.28	25.5	29.8	24.5	88.2	E	.7	9	Ci.-S.	Cu. E, ESE	1	●° d ↙° p.
Mean	759.09	26.6	29.4	24.1	86.2	----------	1.7	7.1	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	406	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P.ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.09	27.2	32.8	23.5	83.7	NE quad.	1.8	6.2	Ci., A.-Cu. ESE	Cu. NE	-------	Ω² ≡² a. Ω p.
2	59.56	26.8	33	22	80.3	NE quad.	2.2	3.5	A.-Cu. ESE	Cu. E	-------	Ω a. p.
3	59.36	26.9	32.6	24.4	81.7	ENE	2.5	4.8	Ci., A.-Cu. SE	Cu. E	-------	◠ a. Ω a. p.
4	59.65	26.7	33	22.9	82.8	ENE	2	4.3	A.-Cu. SE	Cu. E	-------	Ω a. p.
5	60.26	25.7	32.1	21.6	82	N, SE	1.5	4.8	Ci. SE	Cu. NE	-------	≡ a. Ω a. p.
6	58.91	25.6	30	21.2	80.8	NNE	3.7	8.5	Ci.-S.	Cu. ENE, NE	1.8	Ω a. ↙° a. p. d° p.
7	60.02	24	25.1	23	97.2	ESE	.8	9.5	Ci.-S.	N. E	9.7	d a. d² p.
8	61.10	24.5	28.7	22.1	93.2	NE, E	1.2	6.3	Ci.-S.	Cu. E	1.3	● d² a. Ω p.
9	60.02	25.6	31.9	21.5	86	N	1.3	3	Ci.	Cu., Cu.-N. E	-------	Ω² a. d° p.
10	59.65	25.4	31.5	20.9	79.2	NE	2.5	2.3	Ci., A.-Cu. E	Cu. NE	-------	Ω² a. Ω p.
11	60.49	25.2	31.6	19.9	83.5	N, E	2	2.7	A.-Cu. E	Cu. ENE	-------	Ω² a. d° p.
12	60.55	25.8	32.4	21.4	82.3	N, E	1.7	3	A.-Cu. ENE	Cu. E	-------	Ω a. p.
13	59.39	25.9	32.6	20.7	80	N, NE	1.2	2.5	Ci.	Cu. NE	-------	Ω² a.
14	59.21	25.2	32.8	21.1	87.8	NE, ESE	1.2	3.3	Ci., A.-Cu.	Cu.-N. E	-------	Ω² ≡ a. d° ↘ p.
15	60.02	25.4	30	21.9	87.2	N	1.3	3.7	A.-Cu. ENE	Cu. E	-------	◯ a. Ω a. p.
16	59.79	26	32.6	21.5	84	N	1.5	2.5	Ci.	Cu. E	-------	Ω² a. Ω p.
17	59.41	26.2	32.5	21.2	82.8	N	1.5	5.7	Ci. E	Cu. NE	-------	Ω a. d° p.
18	59.09	26.6	33.2	21.4	81.2	NE, E	1	4.3	A.-Cu. E	Cu. NE	-------	Ω a. ↘ p.
19	59.12	26.3	32.8	22	81	NE	1.5	3.7	A.-Cu.	Cu. NE	-------	≡° a. Ω a. p.
20	58.73	25.7	32.5	21.9	87.5	NE	1.7	5.8	Ci. SE	Cu. NE	7.1	≡° Ω a. ● ☋² p.
21	58.39	26.1	31.8	22.5	82.3	NE	1.7	5.5	A.-Cu., Ci. SE	Cu. N, NNE	-------	☋ p.
22	59.04	25.6	32.2	22.4	76.5	NE	2	5.2	Ci.	Cu. NE	-------	Ω a. p. ☋ p.
23	58.96	25.2	31.7	21	78.5	NE	2	2.7	Ci.	Cu. NNE	-------	Ω a. p. ☿ p.
24	58.24	24.8	32.1	20	79.2	NE	1.8	5.7	Ci., Ci.-S. SE	Cu. NE	-------	☿ ≡☿ a. ☋ Ω p.
25	55.65	24.8	28	21.5	77	N, NE	3.8	8.8	Ci.-S. SE	N. ENE	2	↙° d² p.
26	57.53	26.6	32.5	22	78.7	SE quad.	1.7	5	Ci. WSW	Cu. SE quad.	-------	☋ a. Ω p.
27	59.21	25.6	32.6	19.5	81.3	NE, N	1.7	5.3	Ci. SE	Cu. NE	-------	Ω² ≡ a. ☿ p.
28	58.25	26	30	22.5	79.5	NNE, N	2.3	8.5	Ci.-S. SSE	Cu. ENE	-------	Ω ◯ d° a.
29	57.54	23.8	26	22.4	92.8	NE	2.2	9.8	Ci.-S.	N. E	25.6	d ● a. p.
30	58.89	23.9	29	22	96.5	ESE	1.3	9.3	Ci.-S.	Cu.-N. SE	29.4	d° a. ●ᵃ ⊤ p.
Mean	759.20	25.6	31.3	21.7	83.6	----------	1.8	5.2	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	76.9	

Meteorological data for first and second class stations—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			*mm.*	
1	759.54	28.1	34.7	24.9	81.8	SE quad.	1	5.2	Ci.	Cu., Fr.-N. SE	-------	☊° a. ⊤ d° p.
2	58.90	27.5	35	23.1	79.2	E quad.	.8	1.5	Ci.	Cu.	-------	☊° a.
3	58.55	27.7	34.4	24	79	SE quad.	1.5	3.8	A.-Cu. SE	Cu.	-------	
4	59.09	27.2	32.5	23.4	79.7	SE	1.3	3.5	Ci.	Cu.	-------	☊ a. ⊤ d ⌐⊴ p.
5	59.44	27.6	33.8	23	79.7	SE, S	.7	6	Ci.-S.	Cu.	-------	☊ a.
6	58.56	25.7	30.7	21.5	80.8	SE, NW	.7	8	Ci.-S.	Cu.	-------	
7	58.86	27.3	33.5	24.5	70.2	SSE	2.2	8	Ci.-S.	Cu.	-------	
8	60.32	27.2	32.6	23.5	78.5	S quad.	.8	6.5	A.-Cu. ENE, E	S.-Cu. SE, ENE	-------	d² a.
9	59.44	26.4	32.2	23.4	82.8	S	.7	6.5	A.-Cu. ENE	S.-Cu.	10.2	d a. ●² ⊤ p.
10	58.86	26.6	32.1	22.5	77.5	SE quad.	.8	.8		Cu.	-------	d a.
11	59.74	26.7	33.4	22.1	77.7	S, SE	.7	2.2	Ci.	Cu.	-------	
12	59.80	27.2	33.5	22.4	75.5	SE	.8	1	Ci.	Cu.	-------	☊ a.
13	58.85	27.6	32.4	23.2	73	SE	.8	1.7		Cu.	-------	
14	58.58	27	33	22.8	76.8	S quad.	.8	2.5	Ci., A.-Cu.	Cu.	.5	☊ a. ●° d p.
15	59.32	26.9	32.5	22.4	80.5	SE quad.	.7	3	Ci.-S. E	Cu., S.-Cu. SE	-------	d² a.
16	58.99	27.2	34.4	22.5	77.7	SE quad.	.8	2	Ci.	Cu., S.-Cu. E	-------	☊ a.
17	58.58	27.1	33.9	22.6	74	SE	1.2	4.7	A.-Cu.	S.-Cu. E	-------	⌒ d² ⊴ p.
18	58.31	27.4	32.9	22.1	75.2	N quad.	1	3.2	A.-Cu.	Cu.	-------	⌣ p.
19	58.33	27.9	34.5	23.5	78.3	N quad.	.8	3.5	A.-Cu.	Cu. E	-------	
20	58.05	26.5	32.2	22.3	82.8	N quad.	1.2	5.5	A.-Cu. ENE	S.-Cu. ENE	-------	d° ⊕ p.
21	57.70	26.9	31	23.4	80.5	SE, NW	1	4.7	A.-Cu.	Cu.	-------	☊ a.
22	58.32	26.7	30.9	23.1	72.8	S, NW	1.3	6	A.-Cu.	Cu.	-------	
23	58.24	26.3	31	22.5	78.2	S, NW	.8	4.5	Ci.	S.-Cu., Cu.	-------	
24	57.66	25.2	30.5	20.5	79.8	NW quad.	1	5.2	Ci., Ci.-S.	S.-Cu. ENE	-------	☊ ◯ a. ⊕ ☊° p.
25	55.33	25	29.9	20.9	82	S, NW	.8	9	A.-S. SE	S.-Cu. E	1	⊕ ⊕ ☊ a. ●° p.
26	56.36	27.6	33.2	23.9	72.2	SE quad.	2	6.7	Ci., Ci.-S.	Variable	-------	⊕ p.
27	58.50	26.6	33.7	21.4	78.2	SE quad.	.7	5.7	Ci.-S.	Cu.	-------	☊ a.
28	57.79	26.5	32.5	22.5	82	NW	.7	8.3	Ci.-S.	S.-Cu. E	-------	
29	56.70	24.2	28.1	22.5	86.3	SSE	1.5	9.5	A.-S.	Fr.-N. E	1.8	d a. p.
30	57.75	25.2	28.6	22.8	86.7	SE	2	9.8	A.-Cu., Ci.-S.	Fr.-N. SE	8.1	●° a. ● p.
Mean	758.48	26.8	32.5	22.8	78.6	-------	1	5	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	21.6	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 9.7 meters; gravity correction not applied, —1.65 mm.]

	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			*mm.*	
1	759.56	28.2	31.9	25.3	84	N quad.	2.2	6.2	Ci.-S.	Cu.	-------	⊴ p.
2	58.85	27.4	32.4	24.4	81.7	SE quad.	2.7	4.3	Ci.-S.	Cu.	-------	☊ a.
3	58.56	27.5	32.6	24.1	83.2	S quad.	2.2	7.8	Ci.-S.	S.-Cu., Fr.-Cu. SE	-------	☊ a. d p.
4	59.11	27.6	31.9	23.4	80.3	N quad.	2.8	8.5	Ci.	Cu.	-------	☊ a.
5	59.46	27.5	32.6	24.3	82.8	SSE, WNW	2.3	10	Ci.-S.	S.-Cu.	-------	☊ a.
6	58.58	25.9	29.9	23	84	SE, S	1.3	10	Ci.-S.	S.-Cu.	-------	☊ a.
7	58.70	26.3	32	21.9	79	SE	3.2	10	Ci.-S.	S.-Cu.	-------	☊² ∞° a.
8	60.25	26.6	31.9	23.5	81.2	SE quad.	2.2	9	Ci.-S., Ci.	S.-Cu.	-------	☊ d° a.
9	59.33	26.9	32.1	23	81.3	SE quad.	2	7.7	Ci.-S., A.-Cu.	S.-Cu.	-------	☊ a.
10	58.95	26.5	32.3	21.8	81.2	S, N	2.7	2	Ci., Ci.-S.	S.-Cu.	-------	☊² a.
11	59.76	27.1	32	23.1	79.3	SE quad.	3.2	5.3	Ci.-S.	S.-Cu.	-------	☊ a.
12	59.82	27.4	32.4	22.9	79.2	SE quad.	2.8	3.8	Ci.	S.-Cu.	-------	☊ a.
13	58.82	27.5	32.6	23.4	77.5	N quad.	2.7	2		S.-Cu.	-------	☊ a.
14	58.49	27.3	32.2	22.1	79	S, N	2.7	4	Ci.-S.	s.-cu., Fr.-Cu. SSE	0.3	☊ a. ⊴ p.
15	59.29	27.3	31.6	23.1	78.7	SSE, NNE	2.7	5.3	Ci.-S.	S.-Cu.	-------	●° ☊ a. ◯° p.
16	58.98	27.1	32.1	22.7	77.7	SE quad.	2.5	2.3		S.-Cu.	-------	☊² ∞° a.
17	58.60	27.4	33.4	23.4	76.7	S	2	4	Ci.-S.	S.-Cu.	-------	☊ a.
18	58.50	26.9	31.5	21.1	78.2	S, NNE	2.7	3.2	Ci.-S.	S.-Cu.	-------	☊² ∞° a.
19	58.53	27.7	32.4	23.1	81.7	N quad.	3.5	4	Ci.-S.	Cu.	20.1	☊ a.
20	58.28	27.2	29.4	25.1	84	NNE	3.7	10	Ci.-S.	N.-cf., Cu. NE	1	● ↙° a.
21	58.06	27	28.9	25.9	75.2	NNE	5.7	10	Ci.-S.	S.-Cu., Cu. NE	-------	↙° a. p.
22	58.60	26.9	30.1	25.4	74.3	NNE, N	4.2	9.5	Ci.-S.	s.-cu., Fr.-Cu. NNE	-------	
23	58.35	26.5	30.5	23.1	76	NNE	3.2	9.8	Ci.-S.	S.-Cu.	-------	
24	57.70	26.2	31	21.6	77.7	N quad.	2.7	10	Ci.-S.	S.-Cu.	-------	☊ a.
25	55.54	25.9	30.2	21.7	81.5	S, NNW	2	10	Ci.-S.	S.-Cu.	-------	☊² a. d°p.
26	56.24	26.4	30.9	22.6	78.5	SE	4	9	Ci.-S.	S.-Cu.	-------	◯° a. ↙° a. p. ⌣° p.
27	58.51	27	31.1	22	81.5	NNE	2.7	8.8	Ci.-S.	S.-Cu.	-------	☊ a. ◯² a. p.
28	57.86	26.4	32	22.6	83.2	SSE, NNE	2	10	Ci.-S.	S.-Cu.	-------	☊² ∞ a. ◯° a. p.
29	56.58	24.8	26.9	22.8	87.3	SE	2.8	10	Ci.-S.	S.-Cu., N.-cf.	2.1	☊ a. d° a. p. ●° p.
30	57.35	24.7	28.6	22.9	87	SE	4.8	10		N.-cf., S.-Cu.	3.9	p° a. p. ↙° p.
Mean	758.51	26.8	31.3	23.2	80.4	-------	2.9	7.2	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	27.4	

Meteorological data for first and second class stations—Continued.

BAGUIO.[a]

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1,512.5 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	637.84	19	25.5	15.7	85.2	NE quad.	1	5.7	Ci.	Cu. SE	28	☊² ≡ a. ● p.
2	37.27	19.2	24.7	15.1	80.5	SE quad.	1.7	3.4	Ci.	Cu. SSE	-------	≡° a.
3	36.96	18.7	24.3	15.9	87.2	SE quad.	1.7	5.9	Ci. ENE	Cu. SE	-------	≡° p.
4	37.34	18.5	24.3	15.9	91.2	Variable	1.3	6.3	Ci.	Cu. S	4.9	≡ ◠° ⊤ ● ↓ p.
5	37.50	17.8	22.9	14.9	92.3	Variable	1.2	6.4	Ci.-S.	cu.,cu.-N. variable	-------	☊² a. ≡° a. p.
6	36.60	17.9	21.4	14.4	68.3	E quad.	4.3	9.1	Ci.-S.	Cu.	-------	↙° p.
7	36.79	17.6	20.5	15.9	73	ESE, E	5.7	9.4	Ci.-S. SE	Cu. SE, ESE	1	d° a. ↙ a. p. ⊕ p.
8	38.08	17.3	22	15.7	86.8	ESE	2.7	8.4	A.-Cu. NW	N.-cf. SE	2	d ◠² a. d° p° p.
9	37.31	17.3	23.2	15	92.2	ESE	.8	9	A.-Cu. SW	S.-Cu., Cu.-N. SE	2.1	☊² d a. ≡° a. p.
10	36.97	18	24.1	14.4	76.2	ESE	1.7	3.7	Ci., Ci.-Cu.	Cu. E	-------	☊² a.
11	37.66	18.4	24.3	14.2	75.7	SE	1.2	2.6	Ci.-S., A.-Cu.	Cu. ESE	-------	☊² a. ≡° p.
12	37.81	18.6	25	14.7	80.3	ESE	1.7	3.9	Ci.-S.	Cu. S	-------	☊² a. ≡° p.
13	36.93	18	23.5	15.2	85.8	ESE	1.3	5.3	Ci.-S.	Cu. WSW	.5	≡° ☊² a. ≡ d° p.
14	36.59	18.2	23.4	15.2	83.3	SE quad.	1.3	5.7	Ci.-S.	Cu. NE	-------	☊ a. ≡ p.
15	37.22	18.4	24	14.9	80	Variable	1.2	7	Ci.-S.,A.-Cu. SW,SSE	Cu. ESE	-------	☊ a. ≡ p.
16	37.11	18.2	24.7	15.1	83.7	ESE, SE	1.3	5.7	Ci., Ci.-S.	Cu. Variable	1.9	≡ d° ● p.
17	36.80	18.2	23.9	15.2	79.8	ESE	2.3	6.7	A.-Cu.	Cu. E	-------	≡ ⊤° p.
18	36.54	18	24.5	14.7	83	E, SW	1	6	A.-Cu. SE	Variable	10.2	☊ a. ● d° ≡ p.
19	36.75	18	23.8	16	90.7	Variable	.8	7	A.-Cu. SSE	cu.,cu.-N. E quad.	1.5	☊² a. ≡ d ◠² p.
20	36.34	17.5	24.9	14.9	92	Variable	.7	7.1	Ci.-S., A.-Cu.	Cu. E	-------	☊² ≡° a. d° ≡ p.
21	35.76	17.4	22.6	15.1	91.7	Variable	.7	7.6	Ci.	Cu.-N.	.5	☊² a. d° ≡² p.
22	36.06	17.4	22.8	14.3	89.7	W	1	6.9	Ci.	Cu. SE, WSW	-------	☊² ≡ a. ☋ p.
23	35.88	16.7	22.2	13.5	85.3	E, W	1.7	5.6	Ci.	N.-cf. ESE	-------	☊² ≡ a.
24	35.36	17.6	23.5	14.1	80.2	SE, E	1.7	7	Ci.-S.	Cu. E	-------	◯ a.
25	33.87	17.9	24.2	13.3	76	E	3.5	8.1	Ci.-S. S by E	Cu. ESE	-------	↙° p.
26	34.93	18.6	23.2	16.4	77	SE quad.	4.2	6.4	Ci., A.-Cu. S, SE	Cu. E quad.	-------	↙ a.
27	36.96	19.6	26.4	15.9	70.2	E quad.	1.8	6.1	Ci., Ci.-S. SE	Cu. E	-------	◯ p.
28	36.13	19.3	25	16.1	64	E	3.5	9	ci.-s., A.-Cu. S by E	Cu. E	-------	↙° a.
29	34.60	16.8	18.3	14.9	76.7	E	6.8	10	A.-Cu. SE	Fr.-N. E	1.3	↙° d° a. ↙ ●° p.
30	35.33	16.2	18.5	15.2	93.5	E	4.2	10	Ci.-S., A.-Cu. SSE	Fr.-N. SE quad.	7.6	≡ ↙° a. ●° a. p.
Mean	636.58	18	23.4	15.1	82.4	----------	2.1	6.7	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	61.5	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 14.7 meters; gravity correction not applied, —1.61 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.57	27.4	31.3	23.6	87.7	Variable	0.8	3.3	Ci.	Cu. SE, ESE	-------	☊ a.
2	58.90	27.6	31.3	23.5	89.7	NW quad.	1.2	3.7	Ci.	Cu. NW	-------	☊° a. ☊ p.
3	58.76	27.1	31.8	23.6	85.7	Variable	.8	2.7	Ci. NE	Cu.	-------	☊² a.
4	59.16	27.3	31.7	23.7	86.7	N quad.	.8	2.7	Ci.	Cu. NNW	-------	☊ a.
5	59.46	27.2	31.3	23.3	86.8	SE quad.	1	3	A.-Cu. ESE	Cu. NNW	-------	☊ a.
6	58.85	27.5	32.2	21.7	67.2	NE	1.5	5.5	Ci.	S.-Cu.	-------	
7	58.72	28.8	32.9	25.2	71.3	NE quad.	1.7	6	Ci. SSW	S.-Cu.	-------	
8	60.22	27.3	33.3	23.3	85	NW quad.	.8	1.5	A.-Cu.	Cu. NE	-------	
9	59.17	27.7	32.8	23.3	76.2	NE	1.2	3.7	A.-Cu. ENE	Cu. E	-------	
10	58.87	27.2	32	21.8	80	N quad.	1	2	Ci.	Cu. E	-------	≡ a.
11	59.80	27.1	33.2	22.1	84.3	N quad.	.7	4.5	Ci., A.-Cu.	Cu. ESE	-------	☊ a.
12	59.80	27.1	32.2	21.9	79.3	W quad.	.7	.7	Ci.	Cu.	-------	☊° ≡° a.
13	58.82	26.9	32	22.2	86.7	WNW	.5	2.7	----------	Cu. NE, NNE	-------	☊ ≡ a.
14	58.66	26.8	31.9	22.4	85	NW quad.	1	2.2	A.-Cu.	Cu. NE, NNE	-------	☊ a. d° p.
15	59.37	26.7	32.7	21.8	76.7	N quad.	1.5	3	A.-Cu. ESE	Cu.	-------	
16	59.05	26.8	32.2	22.2	85.5	NW quad.	1.2	1.5	A.-Cu. ESE	Cu. NE	-------	
17	58.73	27.1	32.2	22.1	85.8	Variable	.5	3	A.-Cu. ESE	S.-Cu.	-------	☋ p.
18	58.60	27	31.8	22.8	89	Variable	.8	5.8	A.-Cu.	Cu. NE	-------	
19	58.57	26.7	31.3	23	91.3	N quad.	1.2	3.2	A.-Cu., Ci.-S.	Cu. NW	-------	
20	58.81	25.6	29.3	22.3	88.3	N quad.	2.2	6.7	A.-Cu. ENE	Cu. NE	-------	∈ p.
21	58.53	24.6	29	20.6	88.8	NNE	2	1.2	Ci.	Cu.	-------	∈ p.
22	58.84	23.5	29.2	18.7	86.3	N	1.5	1.8	Ci.	S.-Cu.	-------	☋ p.
23	58.64	24.6	29.9	19	85.7	N quad.	.7	.8	Ci.	Cu.	-------	
24	57.86	25.4	30.7	20	80	N quad.	.8	3.7	Ci.	Cu. NE	-------	
25	55.71	27.4	32.8	21.8	72.2	NE	2.2	8	ci., A.-Cu. SE, ESE	Cu.	-------	↙° ☋ p.
26	56.41	27.5	31.8	24.2	88.8	N quad.	1.5	8.8	A.-Cu. NNE	s.-cu., cu. S, WNW	-------	↙° a.
27	58.54	27.1	31.7	23	88.2	N quad.	1.2	5.2	Ci. SW	Cu. NNE	-------	☋ ☋ ∈ p.
28	57.75	26.9	31.2	22.8	87.7	NW quad.	1.2	7.8	Ci.-S. SSW	Cu. ESE	-------	☋ ∈ ∈ a.
29	56.71	28	33.4	24.2	78	NE quad.	2.2	9.3	Ci.-S.	Cu.-N. ESE	0.2	∈ a. d° p.
30	57.37	25.8	28	22.8	90.2	Variable	.5	9.7	Ci.-S.	Cu.-N. SSW	.1	d° a.
Mean	758.61	26.8	31.6	22.4	83.8	----------	1.2	4.1	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	0.3	

[a] The barometric readings of this station are not reduced to sea level.

Meteorological data for first and second class stations—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.78	26.2	33	22.4	89.2	E quad.	0.5	4.8		Cu. S	-------	Ω² ≡ a.
2	60.18	26.9	33.7	22.5	81.3	S quad.	.7	4.8	Ci.	Cu. W	-------	Ω² a.
3	59.42	26.9	34.6	21.6	79.8	S	.2	3.3	Ci.	Variable	-------	Ω° a.
4	59.81	26.9	35.1	22.4	81	NE	.5	2.3		Cu. E	-------	Ω² a.
5	60.73	25.2	32.6	20	84.8	N quad.	.5	2	Ci.	Cu. NE	-------	Ω² a.
6	61.28	25.2	32.5	21	85.2	NE	.7	4.8	Ci.	Cu. N, E	1.8	Ω² a.
7	61.71	24	28.1	21.5	96.3	SE	.2	8.3		Cu.-N. E	13.8	●° a. p.
8	62.17	24.9	29.5	22.6?	93.2	N	.2	6.8		Cu.-N. N	4.6	● a. ⌈ ☿° p p.
9	60.82	25.5	32.4	22.3	87	NE	.2	6.8		Cu.-N. NE	-------	●° a.
10	60.88	25.1	32.5	22.3	91.8	NW	.5	8.8		Cu.-N. SW, N	8.6	d ● p.
11	61.70	25.2	30.5	22.2	88.2	N	.2	7		Cu. ESE, E	-------	●° a.
12	61.78	25.4	32	21.2	87.7	NE	.2	6.2	Ci.	Cu.-N. E	-------	Ω² d a.
13	60.07	25.6	32.2	21.7	85.5	NE	.5	9.3		Cu.-N. NE	-------	Ω° d a.
14	59.81	25.7	31.4	22	84.2	NE	.2	4.2		Cu. NE	-------	Ω² a.
15	61.47	23.5	27.7	21.2	92.3	N	1	9		Cu.-N. N	22.9	● a. d a. p.
16	61.23	24	28.5	22	92.8	NW	.5	9.3	Ci.-Cu.	Cu.-N. NW	14.3	● a. p.
17	61.02	23.4	27	21.4	94.8	Calm	0	10		N. N	12.2	● a. p.
18	59.84	24.4	30	20.6	89.8	N, NE	.3	5.7	Ci.-S.	Cu. NW	4.1	≡ ● a. ☿² p.
19	59.46	26.1	32.8	23	84.5	W quad.	.7	5.5		Cu. N	12.2	● ◠² p.
20	60.08	23.6	27	22	93.5	NW	1.5	8	Ci.-S.	Cu.-N. N	23.4	●² a. d☾ ● p.
21	60.27	23.9	28	20.8	80.5	N quad.	1.3	5.8	Ci.-S., Ci.	Cu.-N. NE	-------	Ω a.
22	60.27	23.2	28.7	19.3	85.2	N quad.	1	5		Cu. N	-------	Ω² a.
23	60.28	23.4	30.4	18	84.7	NW quad.	1	5.2	Ci.-S.	Cu. E	-------	Ω² a. ∪ p.
24	60.37	23.4	28	21	82.5	NW	1.8	7.8	Ci.-S.	Cu.-N. N, NE	-------	Ω² a. d p.
25	58.86	23.4	27.6	20.6	87.3	N quad.	1.7	8.5		S.-Cu., Cu.-N. NE	6.7	Ω² a. ● p.
26	57.83	26.2	32.5	22.5	84.8	SE	.3	5.5	Ci.	Cu. S	-------	●² ≡ a.
27	59.97	25.4	32.4	22.1	87.5	NE	.2	5.8	Ci., Ci.-S.	Cu. S, NE	-------	Ω² a. ∪² p.
28	59.97	24.3	30	20	88.3	NW	.2	7		Cu.-N. N	2.3	d° a. ● p.
29	59.94	24.2	30.1	21.9	92.8	Variable	.5	9.5	Ci., Ci.-S.	Cu.-N. N, SSE	67.6	● a. ●² p.
30	60.25	21.6	23.7	20.6	97.2	Calm	0	10		N.	57.3	●² a. p.
Mean	760.41	24.8	30.5	21.4	87.8		0.6	6.6			-------	
Total	-------	-------	-------	-------	-------		-------	-------			251.8	

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.62	26.5	31	23.5	86.7	E quad.	1.2	0.3		Cu.-N.	-------	Ω ≡ a.
2	59.89	26.6	32.4	23.8	83.8	Variable	1.3	2.5	A.-Cu. NE	Cu. S	-------	
3	59.32	26.8	31.6	23.1	78	S, E	1.2	.5	Ci.	S.-Cu.	-------	
4	59.72	27	31.7	23.6	80	S, NE	1.3	.2		Cu.	-------	
5	60.90	25.9	31	22.4	78.8	E quad.	1	.2		Cu.-N.	1.5	Ω a.
6	61.54	26.2	30.5	22	81.7	E	1.5	2.3	Ci. SE	Cu.-N. E	1.5	●° a.
7	61.63	26.4	29	24.5	84.2	E	3	4.8	Ci. E	Cu.-N. ENE	4.3	●° a. p.
8	62.43	25.8	28.9	24.1	86.3	E, ENE	2.7	3		Cu.-N. E, ENE	11	◠ a. ●° a. p.
9	61.08	25.8	30	23.1	86.7	ENE	1.3	3.7		Cu.-N. ENE	3.1	●° a. p.
10	61	25	28.5	22.5	86	NE quad.	1.5	4.8		Cu.-N. NE, ENE	15.8	●° a.
11	61.79	25.8	29.9	22.6	87.5	E quad.	.8	2.3		Cu.-N. E	-------	● a.
12	61.74	25.4	29.8	22.6	88.2	E	.7	2		Cu.-N. E	-------	Ω a.
13	60.16	25.5	30.1	22.3	85.7	E	.5	4	A.-Cu. E	Cu.-N. E	-------	Ω a.
14	60.19	25.9	30.4	22.6	84.2	NE	1.5	1.7		Cu.-N.	14.8	Ω a. ●° p.
15	61.85	24.3	27.8	22.1	88.3	NE	3.2	10		Cu.-N., S.-Cu. NE	16.2	●° a. p.
16	61.60	23.5	26.4	21.7	93	E quad.	2.7	10		N. ENE	18.3	●° a. p. ● p.
17	60.87	23.9	27	21.7	90.7	Variable.	.8	10		Cu.-N., S.-Cu. E	14.3	●° a. ● p.
18	59.86	24.3	28	22	91.5	Variable.	.5	8.2	A.-Cu.	Cu.-N. E, SE	.5	●° a. ◠ p.
19	59.72	25.3	29	22.1	88.8	NE	.7	2.5	Ci. S	Cu.-N. E	107.9	Ω a. ◠ ●² p.
20	60.79	24	26	22.5	85.7	NE	4.3	10		N. NE	4.4	●² a. ●° p.
21	60.71	24.2	27.5	22.4	75.5	NE	3	9.2	A.-Cu.	S.-Cu., Cu.-N. NE	-------	●° a.
22	60.22	24.4	28.6	21.1	77.2	NE	1.5	6.7		Cu.-N. NE	4.3	◠ a. ● p.
23	60.51	24.1	28	20.5	85.2	NE, E	1.5	6		Cu.-N. NE	9.6	● a. p.
24	60.76	24.1	26.5	22.1	76.3	ENE	3.5	9.8	A.-Cu.	S.-Cu. NE, ENE	-------	●° a.
25	59.10	23.7	26.1	21.1	87.5	E quad.	2.3	10		S.-Cu., Cu.-N. E	2.6	●° p.
26	57.92	25.9	29.7	23.1	85.2	E, SE	1.2	6.8	Ci. S	S.-Cu. E	-------	
27	59.88	25.2	29.9	22.9	86.7	E	1	4.7	Ci., A.-Cu.	S.-Cu. E	-------	
28	60.12	25.1	29.5	21.5	89	NE quad.	.8	5.7	Ci.	N. ENE	8.9	Ω a. ● p.
29	60.01	25.6	28.1	23.7	85.8	E, ENE	3	8.8	Ci. S	S.-Cu., Cu.-N. E	38.8	● p.
30	60.18	22.6	24.6	20.5	94.8	E	1.8	10		N. E	87	●² a. p.
Mean	760.54	25.2	28.9	22.5	85.3		1.7	5.4			-------	
Total	-------	-------	-------	-------	-------		-------	-------			364.8	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	22.6	94	76	9	10	------	☊° a.
2	32.3	22.4	93	70	10	9	------	⊤° a. ○ p.
3	32.4	21.8	95	76	3	7	9.4	● a. ●° ☇² p.
4	32.6	21.7	95	75	3	9	16.8	☊ ≡° ◌° a. ● p.
5	30.5	22.4	-----	79	10	10	5.1	●° a. p. ☩ p.
6	31.9	24.3	-----	71	10	9	13.7	p a. ◯² ● p.
7	32.2	22.6	93	76	8	6	.6	☊ ⌒° a. ☇² ●° p.
8	31.6	21.1	92	73	4	4	7.3	☊ a. ● p.
9	31.5	22.4	96	82	3	9	3.8	☊ ≡° a. ●° p.
10	31.2	21.4	95	81	3	10	38.1	☊ p a. ● ⌒² p.
11	31.6	21.6	96	83	3	10	5.1	☊² ≡° ● a. d° p.
12	32.3	21.4	95	79	5	6	------	☊° a.
13	32.9	22.1	95	77	4	7	1.	☊° d° a. ●° ⌒° p.
14	32.9	21.5	94	80	4	8	7.1	☊ ● ⊤° a.
15	33	21.2	94	74	6	7	------	☊° a.
16	33.6	21.8	93	79	6	8	------	☊° a. ∞ p.
17	33.	21.7	93	70	4	3	------	☊° a. ∞° p.
18	32.8	22.3	95	84	2	8	.3	p ⌣° p.
19	33	22.2	95	72	5	7	------	☊° a. ∞° p.
20	32.5	23.1	88	73	5	5	------	∞° p.
21	32.2	22.4	95	72	7	9	------	☊° a. ◯² ⌣² p
22	32.1	21.9	94	87	10	9	2.2	☊ p. ⊕° a. ◯ ⌣° p.
23	32.9	21.9?	84?	71	3	6	5.7	d° a. ◯° ⌣² p.
24	32.7	22.6	96	74	10	10	------	● ◯ a. ◯² ⌣² p.
25	33.6	22.7	94	72	9	8	------	◯° a. p. ⌣° p.
26	32.6	22.6	95	83	6	8	4.	●° ☋ p.
27	31.4	22	94	74	10	10	4.3	●° a. p. ⊕° ☋° p.
28	28.1	22.9	84	87	10	10	26.8	● a. ●° ⌣² p.
29	32.4	23.1	82	67	10	10	------	◯² a.
30	32.9	23.8	92	74	4	5	25.4	⊤° a.
Mean	32.2	22.2	92.9	76.4	6.2	7.9	------	
Total	------	------	------	------	------	------	176.7	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	22.9	97	72	3	10	------	☊ a.
2	31.3	23.5	93	74	10	10	------	p° a. p.
3	32.4	22.6	91	74	1	4	------	☊ a.
4	31.2	22.1	96	74	2	4	------	☊ a.
5	30.4	21.9?	96	75	4	10	10.2	☊ a.
6	31.8	21.6	96	79	10	10	2.	● a. d p.
7	32.1	21.2	96	85	1	10	2.1	☊ ●° a. p° ☇ p.
8	31.1	------	94	78	2	9	------	☊ a.
9	30.8	22.1	96	77	1	6	------	☊ a.
10	29.2	21.8	97	82	9	10	1.5	☊ ●° a. p p.
11	33.1	21.5	96	78	2	5	8.1	☊ ● a.
12	32.6	21.6	96	76	1	3	------	☊ a.
13	31.9	------	95	81	9	9	------	☊ a. ⊤ p.
14	32.1	21.7	97	88	1	9	6.1	☊ ● ⊤ a.
15	33.9	21.7	96	83	2	5	------	☊ a.
16	31.7	22.3	98	82	2	9	------	☊ a.
17	33.6	22.1	97	70	9	5	------	☊ a.
18	31.9	21.9	95	88	8	10	2.8	☊ a. ●° p.
19	32.2	21.5	97	78	3	4	------	☊ a.
20	32.8	22.1	97	69	1	4	------	☊ a.
21	31.2	22.6	96	73	2	9	------	☊ a. ⌣ p.
22	32.1	22.6	97	71	3	9	------	☊ a.
23	32.4	23.1	97	72	1	9	------	☊ a.
24	31.2	22.2	97	70	10	9	------	☊ a. p° p.
25	32.	22.8	98	68	10	4	------	☊° a.
26	33.4	22.6	97	69	10	4	------	☊° a.
27	31.5	21.5?	95	84	2	10	.5	☊ a. p p.
28	28.	22.5	79	88	10	10	15.3	d a. ● p.
29	31.	------	85	71	10	4	------	☊° a.
30	31.3	22.6	97	79	9	10	------	☊ ⊤ a. d p.
Mean	31.7	22.2	95.1	76.9	4.9	7.5	------	
Total	------	------	------	------	------	------	48.6	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.2	22.7	87	81	10	10	19.	
2	29.7	23.1	90	77	10	9	------	● d ⌒ a.
3	30.5	23.1	87	77	8	3	------	
4	30.5	22.4	86	75	4	4	3.6	●° p.
5	30.4	22.4	90	71	8	10	------	
6	28.1	23.5	86	80	10	9	------	p d° a.
7	30.8	22.5	92	80	9	10	------	d p.
8	29.6	22	84	77	3	9	------	
9	31.4	23	93	68	2	2	------	⊤° ☇ p.
10	31.6	22.2	92	71	6	3	------	
11	30.9	22.5	83	77	1	2	------	
12	30.1	22.8	81	71	2	2	------	
13	31.5	23.4	87	78	9	7	------	
14	32	22.5	85	72	6	8	------	
15	30.9	23	86	78	2	9	------	
16	33.4	23	85	53	3	5	------	
17	32	23.2	90	63	10	5	------	
18	30.4	23	87	74	9	5	.8	p a. d p.
19	29.4	23.1	87	78	9	6	------	
20	31.2	22.8	88	78	2	8	------	
21	30.1	22.8	86	80	5	9	------	
22	30.6	22.5	89	81	9	10	------	
23	30.2	22.5	77	76	5	9	------	
24	30.3	22.9	90	62	10	10	------	
25	29.9	25.5	86	80	10	9	.8	p a.
26	33.4	23.3	91	67	10	3	------	
27	31	24	85	83	8	10	8.9	● d p.
28	26	23.9	72	98	10	10	9.9	● a.
29	29.5	25.6	76	75	10	10	------	
30	30.9	23.5	88	73	10	10	------	⊤ a.
Mean	30.5	23.1	86.2	75.1	7	7.2	------	
Total	------	------	------	------	------	------	43	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.2	22.5	96	74	9	6	11.4	● ⊤ p.
2	32.5	20.9	96	65	5	6	48.3	●² ⊤² ☇ p.
3	32.7	21.4	98	72	5	6	10.7	⊤ ● p.
4	31.9	21.4	96	64	5	5	------	
5	27.1	22.2	93	87	9	10	------	
6	30.7	20.5	95	72	5	6	55.9	⊤ ●² p.
7	32	21.5	96	64	6	8	12.2	● ⊤ p.
8	30.8	21.8	98	86	5	9	------	d p.
9	33.7	20.8	98	67	5	6	------	
10	33.7	21.5	96	67	5	6	------	d p.
11	34.9	21.3	96	63	5	6	------	
12	34.9	22.1	96	66	5	6	------	
13	33.9	21.8	96	65	5	6	------	☐ ☇ p.
14	33.2	21.6	97	64	5	5	------	
15	32.7	21.8	96	60	6	6	------	
16	32.2	21.9	96	72	5	7	------	
17	33.7	20.9	97	71	6	5	8.6	● p.
18	32.7	22.4	96	64	6	5	------	
19	33.2	21.3	96	64	6	5	------	
20	34.8	22.6	96	66	6	5	------	☐ ☇ d p.
21	34.4	23.4	96	65	6	5	8.6	☐ ☇ ● p.
22	33.7	21.9	96	69	5	6	------	☐ ☇ p.
23	31.9	22.9	96	66	5	9	6.9	⊤ ● p.
24	28.7	22.9	96	82	10	9	------	
25	34.2	21.8	96	63	6	5	------	
26	34.2	22.2	95	66	5	5	28.4	●² ☐ ☇ p.
27	28.2	21.5	96	88	10	10	62.2	d ●² p.
28	28.5	21.8	87	77	10	6	12.9	●° ☇° a. ● p.
29	29.9	21.6	98	69	6	6	------	
30	30.7	22.5	96	71	5	7	8.6	● ☐ ☇ p.
Mean	32.2	21.8	95.9	69.6	6.1	6.4	------	
Total	------	------	------	------	------	------	274.7	

Meteorological data for third and fourth class stations—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	23.8	96	74	10	10	7.7	● a. ●° p.
2	31.5	23.2	95	64	9	7	------	●° a.
3	32.1	22.8	95	60	4	5	------	♌ a.
4	34.2	22.6	93	60	3	6	------	♌ a. ⌐◪ p.
5	28.4	23	93	83	9	10	------	⌐◪ p.
6	30.4	23.1	95	79	10	8	1.5	
7	32.1	22.1	94	62	8	7	------	●° a.
8	33.5	22.5	92	65	4	7	3.8	♌ a. ●° p.
9	33.4	22.2	96	56	9	6	1.8	⊤ ●° p.
10	34.1	22.4	96	56	7	4	------	◟ p.
11	34.5	23	91	55	3	7	------	♌ a.
12	34.5	23.6	92	56	6	4	------	♌ a. ◟ p.
13	34.3	23.2	93	53	5	6	35.6	♌ a. ●² p.
14	33.6	22.7	93	58	8	7	------	⌐◪ p.
15	34.3	23.4	93	56	7	6	2	◟ p.
16	34.2	23.7	92	54	8	4	------	●° a.
17	34.4	22.3	92	55	8	6	------	♌ a. ⌐◪ p.
18	34.5	23.3	90	53	7	7	------	♌ a.
19	32.3	23.4	92	66	6	5	------	
20	33.5	23	92	59	6	7	------	♌ a.
21	33	23.6	90	61	4	6	------	♌° a.
22	34	23.5	88	68	8	8	2.5	♌ a.
23	32	23.5	93	76	4	10	1.3	●° a. p. ⊤ p.
24	29.2	24.2	96	70	10	9	2.5	
25	32.4	24	95	61	9	6	7.6	●° a. ● p.
26	33.5	22.5	92	55	8	6	------	
27	29.2	23.6	92	83	7	10	60.2	d. ↙° ●² p.
28	25.3	22	95	92	10	10	74.9	↙ a. ●² a. p.
29	31	21.8	96	81	9	9	------	
30	31	22.6	94	77	9	10	5.1	d° ● p.
Mean	32.3	23	93.2	64.9	7.2	7.1	------	
Total	------	------	------	------	------	------	206.5	

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.5	23	97	80	10	10	18.3	● ⌐◪ a. d a. p. ◟° p.
2	30.7	23	91	68	9	7	38.1	d ● p.
3	30.5	21.4	93	70	3	5	------	◟ p.
4	30.6	21.9	88	70	3	6	------	◟ p.
5	27.5	23.1	90	88	10	10	25.7	d ● p.
6	31.2	21.6	96	72	10	10	10.2	○° ● ⊤ ◟° p.
7	30	21	95	75	8	9	.3	d ⌐◪² p.
8	30.5	22	88	72	8	7	------	◟ d p.
9	30.3	21.3	89	73	5	9	------	◟ p.
10	30	20.9	90	76	3	3	------	♌² a. ◟ p.
11	30.5	21.4	91	68	2	6	------	♌ a. ◟ p.
12	31.1	21.1	92	70	3	5	------	♌ a. ◟ p.
13	31	21.4	91	65	3	2	------	♌° a. ◟ p.
14	30.9	22	91	66	3	3	------	♌ a. ◟° p.
15	30.4	21.9	88	------	3	2	------	♌ a.
16	31.1	21.5	89	68	3	6	------	♌ a. ◟° p.
17	31.4	20.5	86	64	5	3	------	♌² a. ◟ p.
18	31.3	22.8	90	65	6	7	------	♌° a.
19	30.9	22	89	68	3	7	------	♌ a.
20	31.5	22	86	------	8	8	------	◡° ◟° p.
21	31.9	22.4	89	69	7	3	------	♌° a. ◡ p.
22	31.2	23	87	71	8	6	1.5	⌒° ◟ p.
23	26.6	23.5	95	89	10	10	3.8	●° d a. ⌐◪² p.
24	25	23.8	91	96	10	10	4.3	⊤ a. ●° a. p.
25	29.6	23.1	96	84	10	10	.8	d° ●° p.
26	30.4	21.5	91	71	3	6	------	◟ p.
27	28.2	22.2	88	88	9	10	53.3	●° a. ⊤ ● p.
28	28.8	22.2	93	79	10	10	16.7	◟° ↙ ⌒ a. ●° a. p.
29	31.8	22	95	65	9	7	------	◟° p.
30	29.8	21.2	89	72	9	10	------	⊤° ●° p.
Mean	30.1	22	90.8	73.6	6.4	6.9	------	
Total	------	------	------	------	------	------	173	

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.3	24.6?	97	97	10	10	42.4	● a.p. ⊤ p.
2	30.3	22	98	95	7	7	3	p ◟ p.
3	33.2	22.2	96	69	6	5	6.4	♌ ≡° ◟ a.
4	32.7	23.7	97	72	7	8	9.1	● ◟ a.
5	31.2	23	97	77	9	10	38.4	p² a. ● p.
6	30.6	23.7	95	88	10	9	10.9	● a. p. ◟ p.
7	32.2	21.5	97	68	6	8	48.3	◟ a.
8	31	23.1	96	79	10	8	26.2	⌐◪ ●² a. ◟² p.
9	31.7	23.9	95	70	7	7	33.8	● p a. ◟ p.
10	32	22.7	97	73	10	7	116.8	● d a. ⌐◪ ●² p.
11	32.6	23.8	97	75	8	5	20	⌐◪ ● ⌒ a. ◟ p.
12	33.2	24.2	96	72	9	5	6.1	● a. ◟ p.
13	33	23.2	97	70	9	6	1	● a. ◟ p.
14	30.5	24.6	97	88	9	8	19	p ● a. ⌐◪ p.
15	31.6	24.5	97	76	10	7	2	p ● a.
16	32.8	24.7	96	72	9	6	1.5	p a.
17	33.1	24.1	96	68	5	5	------	
18	33.3	25.2	88	72	7	6	------	
19	33.6	23.7	97	71	5	6	------	♌² ≡° a.
20	33.7	22.1	97	62	5	7	------	♌² ≡ a.
21	34.1	23.2	96	74	4	6	------	♌° ≡° a. ◡ p.
22	31.8	23.6	97	75	7	9	26.9	♌² ≡ ⌒ ● a.
23	30.7	23.8	96	81	9	10	------	● a. ◡ p.
24	30	23.1	97	83	10	10	9.4	⊤ a. ● p.
25	29	33.4	97	93	10	10	12.7	● a. p.
26	32.9	22.3	96	82	6	4	------	♌² ≡° a.
27	30.6	22.9	98	87	6	10	121.9	♌² ≡° a. ●² p.
28	27.7	22	97	97	10	10	68.6	●² a. p. d p.
29	31.5	22.6	97	78	8	7	------	≡ a.
30	30	23.8	97	82	9	8	------	♌° a. ⊤² ◟ p.
Mean	31.7	23.4	96.4	78.2	7.9	7.5	------	
Total	------	------	------	------	------	------	624.4	

BUTUAN.

[ϕ=8° 56′ N: λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	26.8	23.1	96	84	10	10	9.4	●² a. p° p.
2	29.9	23.1	89	74	8	8	.3	♌ a. ⊤ ●° p.
3	29.5	23	96	66	1	7	.3	♌ a. ●° ◟ p.
4	29.3	23.4	97	74	10	5	2.3	♌ ≡ a. ⊤² ●° p.
5	23.6	22.8	97	97	10	10	115.6	♌ ● a. ●² p.
6	29.3	21.9	92	68	10	5	------	⊕ a. ⊤ ◟ p.
7	28.3	23.4	94	77	7	10	8.9	♌ a. ⊤² ● ◟ p p.
8	28	23.1	95	74	10	6	4.1	♌ d ● a. ◟ ⊤² p.
9	28.8	22.1	95	74	6	4	.8	♌ a. p p.
10	29	22.2	93	73	3	8	1.5	♌² a. ●° ⌒ ◟ p.
11	29.7	22.4	95	70	0	4	.3	♌ a. ●° ◟ p.
12	30.6	22.9	95	64	2	3	5.6	♌ a. ⌒ ● p.
13	29.7	23.3	96	70	5	3	------	♌° a ⌒ d ◟ ◡ p.
14	30	22.6	96	65	4	3	------	♌ a. ⊤ ◟ p.
15	30.3	23.7	96	68	7	6	------	♌ a. d° ⌒ ◡ p.
16	31	23.1	92	68	2	6	------	♌² ⊕ a. ⊕° p.
17	29	22.8	92	81	2	8	1	♌ a. p ⌒ ●° ◡ p.
18	29.2	23.6	94	79	4	3	1	♌² a. ●° ⌒ p.
19	29.1	22.8	96	74	10	7	------	♌ a.
20	29.2	24	90	67	7	3	1.3	●° d° a. ⊕² a. p. ◟ p.
21	29.2	23.1	96	69	7	5	------	♌ a. ⊟² p.
22	29.2	22	96	71	10	8	2.5	♌ a. ⊕° a. p. d° ◟ p.
23	25.5	23.5	96	92	10	10	22.1	● a. p. ⊤ p.
24	25.2	23.9	90	95	10	10	31.2	⊤² ◟² a. ● a. p.
25	30.2	23.2	89	90	8	10	14.8	♌ a. ● ⊤ ◟ p.
26	28.6	22.3	96	75	8	6	------	♌ a. ◟ ⊟ p.
27	26.5	23.2	95	92	9	10	122.9	♌ ●° d a. ●² p.
28	29	22.9	92	74	10	10	3.3	●² a. ↙° a. p. ●° p.
29	29.1	23.1	93	82	10	10	.3	♌ a. d° p.
30	29.6	23.6	95	73	8	7	8.4	♌ a. ● ◟ p.
Mean	28.7	23	94.1	76	6.9	6.8	------	
Total	------	------	------	------	------	------	357.9	

Meteorological data for third and fourth class stations—Continued.

DUMAGUETE.

[ϕ=9° 18′ N; λ=123° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.8	23.6	83	86	10	10	8	☊ a. ●° a. p. ◟ p.
2	30.5	23.2	86	73	10	7	------	☊ a. ◯° d p.
3	30.6	23.2	87	70	10	4	------	☊ ◠° a.
4	30.3	23.2	85	74	10	9	------	☾ ☊ a. ◟ p.
5	29.6	24.4	78	86	10	10	42.7	●² p.
6	28.1	21.5	97	93	10	10	10.9	●° a. p. ◟ p.
7	30	22.4	91	74	10	7	------	☊² a. ◟ p.
8	30.2	24.1	90	73	9	10	1.8	d ◟ a. ◟° p.
9	29.4	23.1	92	76	7	7	------	●° a. ◟ p.
10	29.5	24.4	87	77	8	7	------	d a.
11	30.8	26.7	76	71	7	4	------	☊ a. ◟ p.
12	30.9	24.7	91	75	10	5	------	d a. ◟° p.
13	31	25.5	78	70	7	3	------	☊° a. ◟° p.
14	31	23.6	89	69	8	8	------	☊ a.
15	30.7	24.3	89	74	10	9	------	☊ a.
16	31	23.1	90	73	7	8	------	☊ a.
17	30.6	24.7	76	72	2	2	------	☊° a. ☋² p.
18	30.3	26	79	71	10	5	------	☊° d° a. ⊕° a. p.
19	31	23.5	92	71	2	6	------	
20	31.8	23.6	89	63	9	8	------	☊ ◯° a.
21	31.2	23.7	84	67	7	5	------	☊ a.
22	30.5	24.7	88	70	9	4	------	☊° ◯ a. ◡° p.
23	29.6	24.6	88	74	10	10	------	d a. p ◟° p.
24	29.3	23.1	84	72	10	10	19.3	◟° ☊° d° a. ◪ ● p.
25	29	23.5	81	77	10	10	3.8	☿ a. ●° a. p. ☾ p.
26	30.2	22	91	68	7	3	------	☊² a.
27	30.2	22.2	87	70	8	10	54.6	☊ d° a. ●² p.
28	------	------	94	-----	10	10	71.6	↙° ● a. ↙ ●² p.
29	30.1	------	-----	73	8	9	------	● a. ◟° p.
30	30.1	24.3	93	79	9	7	42.7	d ● a. ◟° p.
Mean	30.2	23.8	86.7	73.8	8.5	7.2	------	
Total	------	------	-----	-----	-----	-----	255.4	

YAP (WESTERN CAROLINES).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	23.8	92	75	8	9	4.1	● a. ◠ ●° p.
2	28.2	22.9	95	95	10	10	38.9	● a. p.
3	27.3	21.9	91	91	10	10	41.9	● a. p ◟° p.
4	30.2	23.9	90?	94	10	10	9.2	● a. p.
5	30.7	24.1	-----	78	10	10	------	◟ p.
6	31.7	24.2	95	78	10	9	.3	☊ a. d p.
7	31.8	24	88	69	3	9	------	☊ a.
8	32.2	23.9	91	66	3	5	------	☊ a.
9	31.8	24	93	69	7	7	1.5	☊ ● a. ◠ p.
10	32.7	24.4	88	61	6	9	1.8	☊ a.
11	32.2	24	92	69	4	6	.5	● a. ●° p.
12	32.7	24.5	92	67	2	4	------	☊ a. p° p.
13	32.7	24.5	91	68	2	5	------	☊ a.
14	32.3	24.6	92	72	2	8	------	☊ a.
15	33.1	24.3	89	71	2	5	.5	☊ a. p° ● p.
16	32.7	24.9	88	77	6	9	7.1	p° a. ● p.
17	32.3	25	84	82	8	10	1.8	●° a. ☿° ◟° ◡° p.
18	29	------	87	90	10	10	114.5	●° ☿ a. ●² ◟ ↙ p.
19	31.2	------	89	92	10	10	4.5	●° a. p. ☿° ◟ p.
20	33.2	24.9	87	74	10	6	.5	☾ d² p.
21	33.1	25.4	92	77	10	10	16.5	d° ◟° p.
22	28.2	------	89	93	10	10	13.2	↙ a. ● d a. p.
23	31.7	23.8	-----	85	10	10	11.9	● a. p. d ☋ p.
24	31.8	23.9	88	75	10	5	------	☋ p.
25	32.4	24.8	93	71	6	9	12.7	p° a. ● p.
26	27.9	------	94	92	10	10	17.5	●↙ a. p.
27	31.8	23.9	87?	77	7	7	.3	●° p² a. ◡ p.
28	31.7	25	93	82	4	10	.8	☊ ●° a.
29	28.6	23.3	91	92	10	10	20.6	● a. p. d² p.
30	29.4	23.7	93	84	10	10	3	● a. ●° d p.
Mean	31.2	24.1	90.5	78.9	7.3	8.4	------	
Total	------	------	-----	-----	-----	-----	323.6	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.5	22.8	94	92	10	10	89.9	d a. p. ● ◟ p.
2	29.7	22.6	90	78	10	10	------	d ●² a.
3	30.2	22.6	93	76	4	10	------	∞² p.
4	30.2	22.6	91	81	10	8	6.1	d a. p d° ☿° p.
5	30	22.6	85	81	10	10	9.7	p a. d ● ◪² p.
6	29.9	23.3	90	77	10	10	88.9	d ↙° a. ●² a. p.
7	31.6	23.4	93	73	10	10	------	◟ ☿° p.
8	31.9	23.2	92	60	10	10	------	☿° a. d ◟² p.
9	31.8	23.4	86	69	10	10	------	◠ d a.
10	31	23	87	73	10	8	------	d a.
11	29.1	23.4	90	81	10	10	------	
12	30	23.4	92	82	10	8	------	∞² p.
13	31.2	23.4	91	72	10	10	------	◡ ◟ p.
14	29.9	23.3	86	78	10	10	------	
15	30.6	23.4	88	80	10	10	------	
16	31.1	23.5	93	64	10	8	------	
17	32	23.8	93	65	6	8	------	d ◟ p.
18	32.1	23.6	88	70	7	8	------	◡ ◟ p.
19	31.5	23	91	69	10	6	------	☋ p.
20	31.5	23	96	74	10	10	4.1	d a. d² p ◟ ☋ p.
21	32	23.6	85	60	10	5	------	d ◟ ☋² p.
22	30.2	23.6	91	82	10	10	60.7	p a. d ●² ☿² ◟² p.
23	31	23.9	92	69	10	10	4.6	d p.
24	26.5	23.8	97	97	10	10	413.5?	☿² ◟ a. ●² a. p. ↙° p.
25	28.6	23.4	93	82	10	10	7.1	●² a. d ◠² ◡² ◟ p.
26	31.4	23.4	88	81	10	10	------	◡² ☋ p.
27	29.4	23.4	87	86	10	10	33	d ◟ ↙° ● p.
28	28.6	23.2	87	80	10	10	30.9	↙° ● d a. p. ◟² p.
29	30.3	22.8	87	82	10	10	------	
30	30.5	22.7	81	83	10	10	------	
Mean	30.4	23.2	89.9	76.6	9.6	9.3	------	
Total	------	------	-----	-----	-----	-----	748.5?	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	23	91	72	9	10	91.4	☊° ☿ a. ◪ ●² p.
2	28.7	24	98	92	10	10	12.7	●² a. ● p.
3	30.4	22.2	97	75	2	2	------	◟ p.
4	31.8	22	92	79	5	10	------	◯² a. ☿ ◟ p.
5	31.4	20.5	86	72	10	10	20.6	◯² a.
6	25.8	23.5	95	92	10	10	78.5	☿ a. ●² a. p.
7	32.3	23.1	90	88	9	10	11.4	◟ a. p. ● ☿ p.
8	31.3	22.5	96	79	8	10	------	◟ p.
9	31.8	21.5	95	68	5	4	------	d² a. d ◟ p.
10	32	21.9	95	71	4	5	.3	☊² a. ●° p.
11	31.9	22.1	95	69	5	3	------	☊² a. d² ◟ p.
12	30.8	23	92	78	10	10	------	☊° ◯ a. ☿ ⊕ ◟ p.
13	32.9	22.9	96	70	9	6	------	☊² a.
14	32.8	22.4	95	72	5	6	------	☊² a.
15	32.7	21.5	92	65	1	8	------	☊² a.
16	32.7	22.1	93	70	2	9	------	☊² a.
17	32.3	22	92	68	1	1	------	☊² a.
18	32.8	21.1	93	65	0	1	------	☊² a.
19	32.8	21	90	63	0	1	------	☊² a.
20	32.4	20.5	89	63	5	5	------	☊² a.
21	32.7	22	91	68	4	7	------	☊° a. ☋ p.
22	32.3	22.8	92	82	10	10	6.4	d ● p.
23	32.3	22.9	97	67	9	10	------	☋ p.
24	30.3	21.5	92	77	9	10	29.2	☊° a. ◯ d ● p.
25	25.8	23	97	89	10	10	62.7	↙° ●² a. d p.
26	31.3	20.9	91	67	1	2	------	
27	31.3	21.5	94	68	4	10	23.1	☊² a. ⊕ d ● p.
28	28.1	24.1	97	92	10	10	39.7	d a. ● a. p. p ↙° p.
29	26.8	23.5	96	96	10	10	25.1	p a. ● a. p. ◟ p.
30	31.3	22.5	95	80	10	10	8.9	● a. d p.
Mean	31.1	22.2	93.5	75.2	6.2	7.3	------	
Total	------	------	-----	-----	-----	-----	410	

Meteorological data for third and fourth class stations—Continued.

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	26.3	84	79	9	8	43.2	☊ d a. ☐◪ p.
2	27.6	24.1	86	86	10	10	3.9	●² ☐◪ a. p ↙° p.
3	30.5	23.9	91	81	9	9	.8	☊ a. p° p.
4	30.4	23.1	97	73	8	9	1.3	☊ ≡ ●° a. ◟ p.
5	29.3	25.3	85	72	9	8	------	☊ a.
6	25.9	25	91	96	10	10	89.2	●² a. ↙ a. p. ◟ ⊤ p.
7	29.6	23.4	93	80	10	9	------	●² a. ◟ p.
8	29.6	23.2	93	74	9	8	------	☊ a. ◟ p.
9	29.7	25.5	83	68	8	4	------	☊ a.
10	30	25.8	82	73	9	6	------	☊ a.
11	30.1	26.1	79	74	8	7	------	☊ a. ◟ p.
12	29.7	25.3	85	79	9	9	------	☊ a.
13	30.6	26.4	90	73	9	9	------	☊ a. ⊕ p.
14	29.9	25.9	89	74	8	7	------	☊ a.
15	30	25.8	89	77	9	8	------	☊ a.
16	30.2	26.3	88	78	10	9	------	☊ a.
17	30.7	25.7	93	73	9	3	------	☊ a.
18	30.6	26	86	69	8	3	------	☊ a.
19	30.5	25.8	84	75	8	4	------	☊ a.
20	30.2	26.2	85	75	8	6	------	☊ a.
21	30.2	26.1	86	78	9	7	------	☊ a. ☋ p.
22	29.6	24.9	84	74	9	9	------	☊ a. ☋ p.
23	29.5	26.1	79	71	9	9	------	☊ a.
24	29.4	26	82	72	9	9	18.5	☊ a. d p.
25	25.5	24.6	94	96	10	10	40.7	d² a. ● a. p. ↙ p.
26	30	21.1	97	70	10	8	------	
27	29.3	23	92	78	10	8	16.4	☊² a.
28	27.1	25	97	95	10	10	78.8	●² ↙ a. p ◟² p.
29	26.7	22.9	89	92	10	10	54.7	↙ a. ●² a. p.
30	30.2	22.5	96	76	10	10	------	d ◠ a. ◟ p.
Mean	29.4	24.9	88.3	77.7	9.1	7.9	------	
Total	------	------	-----	-----	-----	-----	347.5	

GUIUAN.

[ϕ=11° 03′ N; λ=125° 43′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.7	24.2	90	92	10	9	17.6	☐◪² ●² d a. ↙° ● p.
2	30.6	22.7	93	81	9	9	6.4	●° d p.
3	30.7	22.8	97	74	1	1	12.2	● d a. ☊² p.
4	30.2	22.6	96	70	5	2	1	● a. ●° p.
5	27.8	23.8	91	86	9	10	85.8	⊤ a. ●² a. p. ☐◪² p.
6	30.4	24.2	95	75	10	9	2.1	↙° ● a. ⊤ a. p. ◟ ² p.
7	30.2	24.2	91	87	9	10	6.4	●° a. p. ☐◪ p.
8	30.3	23.5	92	73	7	2	15.2	p a. p.
9	30.9	22.8	95	86	8	9	39.9	◠² a. ● a. p. p p.
10	30.3	22.4	96	74	9	5	9.4	● a. ●° p.
11	30.7	24.4	86	75	4	4	1	● a. d° ◠ p.
12	30.7	22.7	97	71	2	8	1	☊² a.
13	30.8	22.6	96	76	3	4	14.3	p a. ● p.
14	30.3	22.7	97	71	7	1	1.	● a. ◟ p.
15	30.8	22.6	97	66	2	7	------	●° ○° a. ○ p.
16	30.7	22.2	97	71	5	2	------	☊² a.
17	30.9	21.8	97	72	2	3	------	☊² a.
18	30.7	23.6	92	72	1	3	2.3	☊° a.
19	29.9	23.3	97	76	8	7	2.8	d° ●° a. ⊕ ☋ p.
20	30.8	23.8	91	74	8	9	------	⊕ a. p. ◟ p.
21	31.6	22.5	95	73	2	8	.3	☊² a. d p.
22	29.2	24.3	93	86	7	9	35	d a. ● p.
23	29.8	24.6	92	76	9	10	27.4	● a. ☋² p.
24	------	24.1	95	89	10	10	45.7[1]	☐◪² ↙° ● a. ↙² ●³ ◟³
25	------	------	-----	-----	8	5	------	↙° a.
26	------	------	-----	-----	9	5	------	◟² a.
27	------	------	-----	-----	8	9	------	● p.
28	------	------	-----	-----	10	8	------	p a. ● p.
29	------	------	-----	-----	10	5	------	● a.
30	------	------	-----	-----	9	1	------	
Mean	30.3	23.3	94.1	76.9	6.7	6.1	------	
Total	------	------	-----	-----	-----	-----	326.8?	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.6	22.9	94	86	10	10	31.5	●² ↙ a. p.
2	30.5	22.5	97	77	9	10	53.1	≡ ↙° a. ●² p.
3	30.6	22.4	95	73	8	7	4.8	●² a. ● p.
4	30.9	21.6	97	70	6	8	14.2	≡ ● a.
5	29.6	22.2	91	76	10	10	37.1	☊ ● a. ● ☐◪ p.
6	30.2	23.5	86	76	10	8	4.4	●² a. ● p.
7	30.1	23.7	88	86	9	8	36.1	≡° a. ● a. p.
8	31	21.2	97	71	9	7	20.9	≡ a. ● a. p. ↙ p.
9	30.6	21.8	97	78	10	8	40.6	● ≡ a. ●² p.
10	30.3	22.4	97	74	10	6	41.9	●² a. ● p.
11	30.7	23.2	97	75	9	7	21.6	≡° ◟ a. ● a. p.
12	30.3	23.4	96	79	10	8	12.5	● a. p.
13	30.6	22.7	97	71	9	6	10.7	● a. ●° p.
14	31	21.4	97	73	2	6	------	☊ a.
15	31.2	21.5	95	69	2	5	------	☊ a.
16	31.2	21.4	96	63	4	4	10.9	
17	31.6	22.6	97	68	6	8	5.1	
18	31.4	21.9	97	69	6	5	------	☊ a. ◠ p.
19	31.6	21.8	97	70	6	8	------	☊ a. ◠ p.
20	32.3	21.5	96	71	5	8	------	☊ a. ◡ a. p.
21	32.7	21.4	96	75	0	7	3.6	☊ a. ● p.
22	31.1	22.2	96	73	8	9	2.3	☊ ≡ a. ●° a. p.
23	31.2	24.1	89	68	5	10	1.8	∈ a.
24	------	22.7	93	89	10	10	311.9	☐◪ a. ↙² ●² a. p.
25	30.1	------	-----	-----	9	10	26.2	↙ a. ● a. p.
26	30.6	22.4	97	75	4	6	3.8	☊ a. ● p.
27	31.1	22.9	96	86	10	10	44.4	≡° ●° a. ↙ ●² p.
28	28.5	24.2	90	81	10	10	28.7	☐◪ a. ↙ ● a. p.
29	29.2	23	97	81	10	10	2.6	● a. p.
30	30.1	22.5	96	85	9	10	7.1	≡° a. ● a. p.
Mean	30.7	22.4	95	75.4	7.5	8.0	------	
Total	------	------	-----	-----	-----	-----	777.8	

MASBATE.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	26.5	89	78	9	8	5.6	
2	29.5	24.6	96	81	10	6	3.3	
3	30.8	24.5	86	86	6	4	------	
4	30.8	25.2	95	74	8	7	------	
5	29	25.5	86	84	9	10	50.8	
6	28	23.5	92	92	10	10	14	
7	29.5	25.5	93	93	9	10	7.9	
8	30.8	23.8	93	75	7	6	------	
9	30.4	34	97	75	8	7	1.3	
10	30.6	24.5	94	75	9	9	.8	
11	29.5	25	98	94	8	9	3.6	
12	29	25.5	92	85	9	8	3.1	
13	30	25.2	96	82	10	7	4.1	
14	29.4	24	98	82	8	8	3	
15	30.8	24.4	89	80	7	4	------	
16	31.2	------	98	83	9	8	------	
17	30.8	24.5	97	75	6	4	------	
18	30.8	24.2	95	68	6	4	------	
19	30.4	23.8	88	77	7	4	------	
20	30.6	25.8	88	71	8	7	------	
21	29.2	24.5	96	90	9	8	------	
22	30	24.8	88	73	8	9	------	
23	30.6	25.6	84	67	8	8	------	
24	27.6	26	86	92	9	10	33.8	
25	28.8	24.4	89	69	10	9	------	
26	31	22.2	97	68	9	7	------	
27	29.2	25.2	98	76	9	8	35.3	
28	27.5	25	97	92	10	10	20.8	
29	28.8	23.6	97	83	10	9	13.5	
30	29.8	23.5	99	87	9	9	------	
Mean	29.8	24.6	93	80.2	8.5	7.6	------	
Total	------	------	-----	-----	-----	-----	200.9	

[1] Raingauge was destroyed by the typhoon in the afternoon of the 24th.

Meteorological data for third and fourth class stations—Continued.

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.8	23.9	97	77	4	9	14.7	d a. p. ● ⊤p.
2	31.5	25.2	84	78	9	9	17.5	d a. ● a. p.
3	34	22.4	98	69	4	5	------	☊ a.
4	32.7	23.4	91	73	3	9	6.4	d a. p.
5	30.8	22.2	97	73	9	9	10.7	● a. p.
6	29.2	24.7	93	95	10	9	6.6	● a. ↙° d a. p.
7	33.1	25.6	83	82	9	10	10.9	d ● p.
8	33.3	23.8	88	67	3	2	18.8	● d p.
9	33.6	22	96	78	8	9	1	●° p.
10	32.7	23.2	87	67	9	1	------	d a. d° p.
11	33.6	25.1	86	69	5	8	59.7	●² ⌐◹² p.
12	33.7	23.7	93	78	8	7	7.1	● a. p.
13	33.1	24.5	92	74	8	7	------	◠ d° a.
14	32.7	22.8	97	73	6	3	4.8	d ● p.
15	33	22.6	97	74	4	3	8.1	●° d a. p.
16	32.1	23.4	98	78	7	7	2	●° d a. p.
17	32.4	23.4	97	76	8	7	2.3	d² p.
18	33.3	23.6	94	68	7	1	------	
19	33.7	23.1	98	68	7	3	------	☊ a. d° p.
20	33.7	22.6	97	65	1	3	------	☊ a. d° p.
21	29.5	22.8	97	81	7	9	3.3	d a. d ●° p.
22	31.4	24	87	80	8	8	1	d a. p.
23	33.3	23.6	87	62	8	2	------	
24	31.4	24.7	87	82	10	10	21.1	● d p.
25	29.5	23.6	94	74	10	10	9.4	↙ ● d a. p.
26	32.8	20.3	98	64	10	1	------	
27	30.4	20.9	98	75	8	9	7.1	☊ a. ● p.
28	30.6	24.7	93	93	10	10	21.8	● d a. p. ↙° p.
29	29.3	23	91	88	10	10	50.3	● d a. p.
30	31.6	------	92	-----	10	-----	13	● ⊤ d a.
Mean	32.2	23.4	92.9	75	7.3	6.6	------	
Total	------	------	-----	-----	-----	-----	297.6	

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.7	24.2	91	78	10	9	2.8	●² ⌐◹² p° a. d ◹ p.
2	30.6	23.4	88	80	2	9	------	d° p.
3	30.9	22.9	96	75	1	2	------	≡° p° a. ◹ p.
4	32.1	22.4	99	66	4	5	------	≡ a. d° p° p.
5	31.6	24.1	88	85	10	10	39.3	● a. p. ⊤ ◹² p.
6	29.3	24.5	93	76	10	9	10.2	● d a. p.
7	30.6	21.6	95	89	10	10	31.7	p° a. ● a. p.
8	30.4	22.2	96	75	5	5	1.5	≡° p° a. p p.
9	30.9	23.3	94	86	4	8	18.3	≡° a. d° p a. p. ● p.
10	31.2	22.8	97	75	4	5	13.7	≡ a. ● p a. p.
11	30.7	23.6	97	80	8	5	12.2	● p° a. p.
12	31.8	24.5	97	75	10	6	8.1	● ◠ a. ●° p.
13	31	23.4	96	77	5	5	2.1	◠ a. ●° a. p.
14	31.2	22.1	96	78	3	8	1.5	≡° ● a. ◹ p.
15	31.4	21.5	97	77	4	6	.5	≡² ☊ ◠ a. d a. p.
16	32.1	23.2	97	70	6	4	------	≡° a. ◡° ◹° p.
17	31.9	23	98	76	2	5	.5	≡ a. ◹° p.
18	31.4	21.3	96	73	1	2	2.3	≡° p° a. ◹° ●p.
19	31.6	22.2	97	83	2	7	2.3	≡² a.
20	31.8	24.2	93	75	7	8	1.3	●° p° a. ◯ ◡ p p.
21	31.1	23.8	96	83	9	8	11.9	● a. p. d p.
22	31.1	24.1	93	82	9	8	1.8	d° ●° a. p.
23	30.3	24	86	80	4	9	11.9	d° p a. ● p.
24	30.6	24.2	94	92	10	10	49.6	p a. p² ●² ↙ p.
25	29.2	23.3	97	81	10	9	39.6	↙ ● d a. d° p.
26	31.2	22.5	99	74	0	7	.5	≡² a.
27	31.2	22.5	98	98	7	10	35.9	≡ d° ●° a. d ●² p.
28	30.2	24.1	98	91	10	10	45.3	p a. ● d a. p.
29	27.7	23.1	97	88	10	10	16.5	p ● a. ◹ p.
30	28.3	21.6	97	82	9	7	4.8	≡° a. ● a. p. ◹ p.
Mean	30.9	23.1	95.2	80	6.2	7.2	------	
Total	------	------	-----	-----	-----	-----	366.1	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.7	24.8	94	84	8	8	20.1	● a. p.
2	30	25.5	86	84	6	10	35.8	● a. p. d ⊤ p.
3	30.3	23.8	96	77	10	6	10.2	● a. p.
4	30.6	24.3	95	76	6	7	1	● a.
5	29.8	23.5	95	78	6	9	16.8	d a.
6	27.9	24.7	92	88	8	6	12.9	● ⊤ a. p.
7	29.5	25.2	92	85	10	8	------	●° a.
8	30.3	25.4	87	79	7	9	------	
9	30	25.2	87	75	7	6	14.9	● p.
10	29.9	23.2	96	81	7	7	6.6	● a. p.
11	30.3	24.4	92	81	6	7	17.3	● a. p. d p.
12	29	23.8	95	89	10	7	12.7	● a. p.
13	29.9	24.3	94	87	7	8	6.4	● ◠ a.
14	30	22.3	97	79	8	7	2.5	d a.
15	30.5	22.8	97	87	7	8	6.3	d a. p. ● p.
16	30.3	23.2	97	78	7	7	1.3	● d a.
17	30.3	25.7	92	77	7	6	------	
18	30.5	23.4	95	74	5	5	1.3	d a.
19	31.6	22.8	95	70	6	7	.8	◡° d p.
20	30.9	23.8	95	81	6	8	------	d a. p. ◡° p.
21	27.7	22.5	96	91	7	10	27.7	d a. ● a. p.
22	29	23.3	97	73	7	8	------	● d a.
23	30.7	21.8	96	73	7	8	4.3	● p.
24	27.3	24.1	95	85	8	10	48.5	● a. p. ↙ p.
25	29	23.7	88?	87	8	8	11.4	● ↙ a.
26	30.3	21.2	98	78	4	4	------	
27	31.4	24.3	96	75	8	8	19.8	● p.
28	27.9	25	95	90	10	8	25.7	● a. p.
29	27	24.1	96	87	9	10	5.3	● a. d p.
30	28.4	23.5	97	88	8	10	4.8	⊤ p.
Mean	29.7	23.9	94.1	81.4	7.3	7.7	------	
Total	------	------	-----	-----	-----	-----	314.4	

SUMAY, GUAM (LADRONE ISLANDS).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	25.4	84	71	10	8	------	
2	30	26.6	84	71	10	5	------	
3	29.6	25.6	84	71	8	6	------	
4	30.4	25.6	84	68	10	6	------	
5	29.4	25.4	84	71	6	8	11.4	
6	29	23.4	88	74	10	10	5.1	
7	29.8	24.8	92	71	10	6	25.4	
8	29.6	23	95	71	10	10	8.9	
9	28.4	23.6	95	84	10	8	12.7	
10	29	25	84	77	8	10	10.1	
11	30.6	23.8	88	65	8	8	------	
12	30	24.6	90	76	6	5	------	
13	30	25	87	74	5	10	------	
14	29.6	23.4	84	71	5	10	------	
15	30	24.2	84	71	5	10	------	
16	30	25.6	84	71	8	5	10.2	
17	28.8	23	87	75	10	10	5.1	
18	27.2	24.6	90	84	10	10	14	
19	29.6	24.8	87	78	10	10	3.8	
20	29.8	26.4	84	71	8	6	7.7	
21	29.4	25	84	72	6	6	3.8	
22	29.8	24.6	92	71	10	6	8.9	
23	28.4	24.6	84	71	6	6	3.8	
24	29.2	24.6	84	80	8	10	12.8	
25	29.2	24.8	95	76	10	10	8.9	
26	29	25.6	92	78	10	7	1.3	
27	30	24.6	87	71	7	6	------	
28	29.6	26	84	74	10	8	1.3	
29	28.8	25	87	77	7	10	1.3	
30	28.4	25.6	84	76	10	6	------	
Mean	29.4	24.8	87.1	73.7	8.4	7.9	------	
Total	------	------	-----	-----	-----	-----	156.5	

Meteorological data for third and fourth class stations—Continued.

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	24	97	76	10	8	------	
2	31.8	26	90	84	10	10	1.3	p ●° p.
3	31	23.8	94	78	8	4	------	
4	31	22	97	69	6	6	------	
5	30	23	98	68	8	10	3.6	d² p.
6	28	23	98	93	10	10	9.9	●° a. ● p.
7	30.4	26	88	81	10	10	6.9	●° a. p p.
8	31	23	98	67	10	8	.3	d p.
9	31.2	23.6	98	75	8	7	1.5	p p.
10	31	23	99	71	5	4	------	●° a.
11	31.5	24	95	72	10	8	5.6	● p.
12	31.5	23.4	99	73	10	10	1.8	●° p.
13	31.2	24.4	97	72	10	10	------	
14	31.1	23.5	98	78	8	4	3.3	●° p.
15	30.4	23.5	97	80	10	6	.3	d p.
16	30	23.6	81?	79	10	10	2.3	p p.
17	30.5	24.8	92	80	10	10	8.5	●° p.
18	31.1	23	98	74	10	3	.5	p p.
19	30.8	22.5	98	71	4	3	------	
20	92.1	22.5	96	72	9	9	18	● p.
21	28.8	23.7	98	78	10	10	8.7	● a. d p.
22	30.3	22.9	91	71	10	8	.8	d p.
23	30.5	23	89	73	10	9	2.3	●° a.
24	31	23.2	94	72	10	10	2.5	●° p.
25	29.4	22.4	91	86	10	10	57.9	●² a. ↙ ●° p.
26	29.8	21.5	96	75	10	8	------	☾ ☿ p.
27	31.4	21.5	96	71	10	8	1	○
28	30.6	24.8	93	80	10	10	17.8	●° a. ● p.
29	27.4	24	91	97	10	10	49.8	↙ a. ● a. p.
30	29.8	23.1	95	90	10	10	4	●° a. p.
Mean	30.6	23.4	94.7	76.9	9.2	8.1	------	
Total	------	------	------	------	------	------	208.6	

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	23	97	80	6	9	28.4	◠ ↙° a. ┬° ● p a. p.
2	30.3	23.4	89	76	8	9	3.9	p a. p.
3	30	23.6	92	74	5	6	3	● ◠ a. p a. p.
4	31.8	22	97	70	4	7	.3	☊² d ◠ a. ↘ p.
5	30.5	21.8	97	80	10	10	16.5	☊² a. ● ↘ d p.
6	29.6	24.4	84	82	10	10	21.8	↙° a. ● ┌↘ a. p.
7	27.3	23.4	92	86	10	10	45	●² p a. d° ┬ p.
8	31.8	23.5	88	69	7	5	1.5	●° d° ◠° a. ☿° p.
9	30.2	22.4	94	75	5	8	2.1	● a. p° d p.
10	31.1	22.2	91	65	3	5	1.5	p° a. p.
11	30.8	22.3	95	75	6	9	23.4	p a. p. ↘ d p.
12	29.1	23.8	97	87	9	9	6.9	● a. p. ┬ p.
13	30.2	23	97	75	9	8	3.6	● ◠ a. ↘° p.
14	31	22.1	98	75	5	7	------	☊ a.
15	29.2	22.3	98	86	3	9	7.4	☊² p° a. ● ◠ ☾° ☿ p.
16	30.4	23	95	75	9	9	2.5	●° d° a.
17	31.5	21.5	98	69	2	4	------	☊² a.
18	31.2	21.6	97	70	5	6	------	☊² a.
19	31.9	21.2	96	68	3	8	------	☊² a. ☿ p.
20	31.8	22.4	97	64	8	9	------	☊ a. p° a. p.
21	28.8	22.8	97	77	10	10	1	☊ a. p° a. p. ◠ ☿ p.
22	30.1	23	83	68	9	9	------	☊ d° a. ☿ ☾ p.
23	30.8	22	81	64	7	10	.8	☊ a. p° ◠ ☿ ☿° ↘ p.
24	28	23.7	90	81	10	10	77.9	p a. ↙° ◠ ●° a. p.
25	------	------	92	------	10	10	38.1	┬ a. ●² ↙ a. p. ☿°
26	30.7	------	------	75	4	3	.5	☿ ☾ ☾° p² p.
27	30.5	22	98	75	5	10	2.8	p° a. p. ●° ☿ ☾ p.
28	29.7	24	80	78	10	9	87.2	●² ↙° a. p.
29	26.7	22.8	97	85	10	10	15.3	● a. ↘ p.
30	28.7	23	95	77	10	10	3	● a. ┬° ↘ a.
Mean	30.1	22.7	93.2	75.2	7.1	8.3	------	
Total	------	------	------	------	------	------	394.4	

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	23.7	97	75	7	8	5.8	☊ ◠ a. ● p.
2	32.5	22.6	93	60	6	8	1.4	●° p.
3	31.6	21.5	99	80	5	9	18.2	● p.
4	32	21.2	98	71	5	8	------	
5	30	21	96	82	8	9	14.8	●° a.
6	30.1	23.7	97	79	10	9	19.3	┌↘ a. ● a. p.
7	26.6	22.4	97	87	10	10	15.8	● a. d a. p.
8	31.9	19.6	100	76	5	8	------	≡² a.
9	31	19.8	98	72	4	8	.1	
10	31.3	19.6	96	86	5	8	------	d° p.
11	31.6	19.5	96	75	3	8	------	
12	31.5	22.4	93	73	5	8	------	
13	31.4	21.5	97	81	6	10	13.2	d ● p.
14	30.5	20	99	75	8	8	------	
15	31.9	20.3	98	67	9	8	------	◠ p.
16	32.3	22.2	96	87	10	10	7.4	● a. d p.
17	32.5	21.5	98	71	9	8	------	
18	33	20.6	100	67	10	6	------	≡² a.
19	31.2	19.7	100	73	5	7	.5	≡² a. d p.
20	30.8	22.2	97	79	8	8	27.9	d p.
21	26.9	22	98	93	10	10	39.9	●² a. p.
22	30.1	22.5	93	83	7	8	.3	p° p.
23	30.3	22	91	71	8	9	2	●° p.
24	28.5	22.7	90	85	10	10	85.9	●° a.
25	30	21.3	92	75	10	10	4.5	●² a. ● d p.
26	32.4	20.3	96	55	3	7	------	
27	30.7	20.3	96	69	8	9	4.8	● p.
28	29.6	23.8	92	84	10	10	33.3	● a. d p.
29	27.1	22.2	95	93	10	10	3.3	● a. ●° d p.
30	30.6	22	97	70	9	9	------	
Mean	30.7	21.5	96.2	76.5	7.4	8.6	------	
Total	------	------	------	------	------	------	298.4	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.9	------	98	70	3	7	0.3	d p.
2	33.7	------	95	60	7	6	2.8	d² p.
3	32.9	------	96	59	8	4	1.8	●° a.
4	33.8	------	96	61	5	7	------	
5	32.3	------	96	59	2	8	.8	
6	28.2	------	94	88	10	10	4	d a. d² p.
7	31.7	------	91	67	10	8	------	
8	33.4	------	97	59	7	7	1	d p.
9	32.3	------	94	88	2	7	6.4	● a. ┌↘ p.
10	33.2	------	97	60	3	4	------	
11	33.3	------	93	65	3	2	------	
12	34	------	95	54	5	7	------	
13	34.2	------	91	56	3	4	------	
14	32.5	------	94	69	1	7	4.8	d² a. p.
15	32.2	------	94	72	2	6	1	d a.
16	32.4	------	97	78	3	9	------	d° p.
17	32.2	------	93	83	7	9	2.5	d² a. p.
18	33.8	------	96	61	4	4	------	
19	33.3	------	96	58	3	3	------	
20	33.1	------	97	65	4	7	12.7	
21	30.1	------	97	70	10	8	5.1	● a.
22	32.4	------	95	61	5	6	------	
23	31.3	------	94	65	5	8	.8	●° a.
24	31	------	95	69	10	6	.5	d p.
25	26.9	------	88	93	10	10	34.7	●² a. d p.
26	33	------	96	66	7	5	------	
27	32.5	------	97	64	4	7	.8	
28	32	------	94	73	10	8	20.3	d a. ● p.
29	25.2	------	96	94	10	10	36.9	● a. p.
30	30.7	------	91	82	10	10	2.1	● a.
Mean	32	------	94.8	69	5.8	6.8	------	
Total	------	------	------	------	------	------	139.3	

Meteorological data for third and fourth class stations—Continued.

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.3	20	98	68	7	8	------	☊ d° a.
2	29	20.3	97	70	10	5	5.6	● a.
3	28.7	20	98	69	2	7	------	☰ ☊ a.
4	30.5	19.4	98	67	3	6	3.3	●° p.
5	30	20.5	98	68	2	8	------	
6	30.7	20	98	72	9	10	30	● a. p.
7	29	19.5	97	68	2	7	1.3	●° p.
8	29.4	20.2	98	69	7	8	------	d° p.
9	30	20.1	98	68	3	6	------	☊ ☰ a.
10	31.3	20.5	97	63	8	5	------	
11	32	20.3	98	63	4	8	------	d a.
12	31.6	20.8	98	64	7	7	------	
13	31	21	97	63	6	8	------	
14	32.1	20.1	98	64	8	9	------	☊ d° a.
15	31.4	20.5	98	63	2	7	------	
16	32.5	20.4	98	63	7	5	------	
17	32.8	20	98	66	2	8	------	
18	32	20.2	97	62	4	7	------	
19	32.5	20.6	98	62	5	6	------	☊ a.
20	32.1	20	97	66	7	8	4.8	●° p.
21	31.6	19.4	98	66	10	6	------	☊ a.
22	31.9	20	98	64	2	7	------	
23	31.5	19.2	97	64	2	5	------	
24	30.1	19	97	65	10	10	------	d° p.
25	29.6	19.6	98	65	2	8	9.4	● p.
26	29	19.8	97	64	7	5	------	
27	28.7	19.2	98	65	4	8	1.5	☰ ☊ a. ●° p.
28	29.3	19.1	97	65	10	6	2.5	●° p.
29	28.9	19.3	97	67	10	10	17	● a. p.
30	28.2	19	98	66	10	8	.8	☊ d a.
Mean	30.6	19.9	97.6	65.6	5.7	7.2	------	
Total	------	------	------	------	------	------	76.2	

STA. CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.8	22.2	98	66	4	6	------	☊ a.
2	31	24	81	72	9	6	14.2	d a. ◠ ● p.
3	31.8	23.2	90	70	7	6	------	
4	31.2	22.2	96	72	3	7	------	☊° a.
5	29.9	21.2	96	65	3	8	2.5	☊ a. d^2 p.
6	28.5	23.1	87	88	9	10	17.6	d^2 ☐ a. ☂ ●° ☋° p.
7	28.8	21.6	90	83	9	10	4.3	●° a.
8	29.2	22.1	95	75	8	8	5.6	d^2 a. ◠ a. p.
9	31.2	22	98	75	7	6	.8	d° a. ◠ p.
10	------	20.6	96	68	3	4	------	☊° a.
11	------	------	------	------	------	------	1.3	d p.
12	31.2	22.5	90	70	4	7	------	
13	31.3	22.6	91	68	3	7	------	
14	30.1	21	98	80	8	9	8.1	☊ ● a.
15	29.7	21.9	95	81	6	9	1.5	d° a. ◠ ♅ p.
16	30.9	21.7	97	71	4	7	4.6	d a.
17	29.7	22.1	97	80	8	8	.8	●° d a.
18	32	21.6	97	64	3	5	------	☊ a.
19	31.2	21	98	62	2	4	------	☰° $☊^2$ a.
20	31.3	20.3	99	71	4	7	44.4	☰° $☊^2$ a. ♅ $●^2$ p.
21	27.5	22.6	90	83	9	9	------	☊° a.
22	29.7	20.7	95	66	5	5	------	☊ a.
23	29.6	22.2	83	68	4	6	2.5	d^2 p.
24	29	22.2	94	72	10	7	.8	d a. p.
25	27.5	22	79	88	10	10	24.1	● a. ●° p.
26	32.4	21.3	93	55	5	4	------	
27	31.6	20	98	65	3	7	1.3	☊ a.
28	29.6	23.1	93	77	10	9	38.1	d^2 a. ● p.
29	26.7	23.1	91	88	10	10	48.7	d^2 ● a. p.
30	30	22.5	88	76	9	10	4.9	d° a. d^2 p.
Mean	30.2	22	92.9	73.1	6.2	7.3	------	
Total	------	------	------	------	------	------	226.1	

ANTIPOLO.

[ϕ=14° 36′ N; λ=121° 10′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.7	21.6	98	68	4	6	0.5	☊ p° a. ☾ p.
2	31.8	21.6	84	65	3	4	1.3	●° p.
3	32.1	22.8	91	63	3	4	------	☊ a.
4	32.3	21.8	96	75	3	8	------	p° ☐ p.
5	31.7	19.9	93	56	4	10	------	$☊^2$ ○ a.
6	29.9	21.1	93	91	10	10	52.1	●° a. ☐ $●^2$ p.
7	27.6	21.3	91	82	10	10	5.8	● a.
8	31	21.4	95	65	9	8	.8	☊ ◠° ● a.
9	32.1	20.5	95	61	3	4	------	$☊^2$ a.
10	32.1	20.6	87	55	1	3	------	$☊^2$ a.
11	31.7	20.3	94	64	1	7	------	$☊^2$ a.
12	32	21	95	59	5	5	------	☊° a.
13	31.1	20.4	95	64	1	6	------	$☊^2$ a.
14	30.4	19.9	94	96	3	6	9.9	$☊^2$ a. ● ┬ p.
15	31.5	20.5	94	69	2	9	------	p° a. ♅° p.
16	30.8	21.3	96	70	3	6	.3	☊ a. ●° ♅° p.
17	32.4	21.2	91	78	3	9	------	$☊^2$ a. p° ◠ ♅ p.
18	32.1	21.1	96	77	7	8	14	$☊^2$ a. ┬ ● ☾ p.
19	31.5	20.4	95	71	1	4	------	$☊^2$ a.
20	32	20.7	93	71	8	8	3.3	☊ a. ●° p.
21	30.4	22.3	98	63	8	9	------	☊ d° a. ♅ p.
22	30.7	19.7	97	62	4	4	------	$☊^2$ a. ♅ p.
23	30.8	19.8	96	58	2	2	------	☊ a. ♅ p.
24	31.1	20.5	91	63	10	9	------	☊ a. ♅ p.
25	26.2	20.9	90	99	10	10	8.9	● a. p. ☰² p.
26	31.9	20.9	87	54	4	5	------	☊° a.
27	32.5	19.3	90	62	8	8	------	$☊^2$ a.
28	30.3	21.5	96	67	10	7	63.8	●° a. $●^2$ p.
29	25.4	21.7	95	97	10	10	38.1	● a. p.
30	29.9	21.7	92	76	8	9	8.4	●° ◠ a. ● p.
Mean	30.9	20.9	93.3	70	5.3	6.9	------	
Total	------	------	------	------	------	------	207.2	

IBA.

[ϕ=15° 20′ N; λ=119° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	21.7	96	73	5	7	1.6	☰° a. ● p. ☐ ☋° a. p.
2	32	21.3	96	69	2	7	------	☾ p.
3	32.5	23.8	81	68	6	10	5.3	● ☾ p.
4	31.5	21.5	97	67	4	8	14.6	☰° a. ● ☐ ☋ p.
5	31.4	22	98	67	4	10	------	○° p.
6	30.7	20.3	93	68	10	10	.5	d p.
7	30	23.5	80	62	10	10	------	☾° p.
8	32.4	23.5	82	59	10	10	------	
9	32	22	87	66	10	6	------	
10	31.4	21	89	64	3	4	------	
11	22	19	88	62	6	6	------	
12	31.9	21	95	65	5	5	------	☊ a.
13	31.9	20.5	95	69	1	5	10.3	☊ a. ● p.
14	31.3	20.7	98	65	2	6	2.8	☰ a. ☐ ☋ ●° p.
15	31.5	20.5	98	68	2	8	------	☰ a.
16	31.5	21.1	97	66	2	2	------	☰ ☊ a.
17	31.5	21.1	97	68	2	4	3.2	☰ a. ○ ◠ ☐ $☋^2$ ●° p.
18	31.1	21.8	95	70	10	8	.3	d p.
19	31.5	21.3	96	68	2	5	------	☰ ☊ a.
20	31.6	21	97	73	4	10	16	☰ ☊ a. ☐ ☋ ● p.
21	30.4	21.9	96	72	6	10	8.5	● p.
22	30.2	22.7	77	71	10	10	.1	d p.
23	30.5	21	96	65	8	10	------	☰° a.
24	30.5	19.2	95	66	10	10	------	☰° ☊ a. ∪ p.
25	29.2	20.5	93	78	10	10	------	d° a. p.
26	32.3	24	75	55	10	10	------	∪° p.
27	33	19.4	95	62	9	10	------	○ a. p.
28	30.6	21.9	95	83	10	10	------	☰° a. d° p.
29	28.1	23.3	75	75	10	10	------	d° a. p.
30	30.5	23.7	75	75	10	10	2.3	d a. ● p.
Mean	31.2	21.5	90.9	68	6.4	8	------	
Total	------	------	------	------	------	------	65.5	

Meteorological data for third and fourth class stations—Continued.

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.3	23	96	59	1	1	1.8	☊ ≡° a. d ●° ↙ p.
2	33.3	21.8	96	63	2	2	------	☊ ≡° a.
3	32	23.4	95	75	10	9	1	☊ a. ●° p.
4	32	22.6	97	83	1	9	1.8	☊ a. d ●° p.
5	32.2	22.3	97	65	2	3	------	☊ ≡ a.
6	31	20.5	93	57	9	9	1.5	☊ a. d ●° p.
7	27.3	23.1	90	72	10	9	1.5	d a. p.
8	28.6	22.5	96	74	10	8	2	⌒ d² a.
9	32.7	21.6	97	57	2	2	------	☊ a. d° p.
10	32.6	20.5	95	57	2	3	------	☊ ≡° a.
11	33	20.1	94	55	3	4	------	☊ a.
12	33.1	19.1	95	55	3	7	------	☊ a.
13	33	21.4	95	57	2	8	.5	☊ ≡° a. p° p.
14	33.2	21	96	58	3	7	34.3	☊ ≡ a. ☾ ● p.
15	31.5	21.6	94	58	7	7	------	☊ a.
16	32.6	21.3	93	54	4	4	------	☊ a. ⌣ p.
17	33	21.6	96	57	2	3	------	☊ a. ⌣ p.
18	32.3	21.5	93	54	3	2	------	☊ a.
19	32.6	22	96	59	2	3	------	☊ a.
20	31.6	21.2	95	67	2	9	------	☊ ≡ a. p° ┬ ⌣ p.
21	32.7	22.1	95	60	3	4	1.8	☊ a. ● ⌣ p.
22	31.3	21.1	90	57	8	3	------	☊ a.
23	32.7	21.9	96	53	2	3	------	☊ ≡ a. ⌣ p.
24	31.9	21.2	90	55	8	3	------	☊ a.
25	30.3	19.8	90	63	4	10	.8	☊ a. d² p.
26	31.8	20	93	59	8	3	------	☊ a. ⌣ p.
27	32.8	19.7	94	57	3	3	------	☊ a.
28	30.8	21.8	91	76	6	9	.5	☊ a. d° p.
29	30.7	22.6	85	85	10	10	19.8	● d a. p. ┼ p.
30	28.2	22	97	75	10	10	12.4	d ● a. p. ┼ p.
Mean	31.8	21.5	94	62	4.7	5.6	------	
Total	------	------	------	------	------	------	79.7	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.9	22.3	97	81	10	2	------	☊ a.
2	30.7	23.1	96	81	10	5	25.9	☊ ≡ a. ●² p.
3	27.7	24	93	90	10	10	70.4	☊ ●² a. p.
4	29.3	23.5	99	84	10	9	7.7	☊ ≡ a. ● a. p.
5	29.9	22.2	97	73	10	8	------	☊ ≡ a.
6	29.8	21.6	96	73	10	10	38.6	☊ ≡ a. ●² p.
7	29.5	24.1	89	85	10	10	25.9	☊ a. ● a. p.
8	27.2	24	95	92	10	10	31.3	●² ┬ a. ● p.
9	29.9	22.8	97	96	9	3	1	☊ ≡ a. d ● p.
10	30.3	21.5	98	72	10	2	------	☊² ≡ a.
11	30.5	21.8	96	76	10	10	------	☊ a. d p.
12	30.6	22.4	97	78	10	7	------	☊ a.
13	30.7	23.3	96	79	10	5	.3	☊ ≡ a. ●° p.
14	30.9	21.4	96	78	9	3	------	☊² ≡ a. ☋ ☋ p.
15	27.9	23	93	80	10	10	.5	☊ d a. ●° ↙ p.
16	29.7	22.9	98	83	10	10	.5	☊ a. ● ⌣ p.
17	29.6	23.3	87	90	10	10	11.9	d ● a. p. ⌒ p.
18	30.2	21.8	98	79	10	1	7.9	☊ ≡ a. ● p.
19	29.7	22.4	98	82	10	1	1	☊ ☊ ≡ a. ● p.
20	30.5	22.4	98	81	10	10	5.8	☊ ☊ ≡ a. ● p.
21	30.1	22.6	96	79	10	9	------	☊ ≡ a. ☋ p.
22	30.1	20.5	91	80	9	9	3	☊ a. ☋ ● p.
23	29.7	21.3	99	83	10	10	------	☊² ≡² a. ☋ p.
24	29.2	21.8	98	84	10	10	------	☊ a. d p.
25	28	20.9	91	96	10	10	106.2	d a. ●² p.
26	29.3	23.3	95	84	10	2	.3	☊ ●² a.
27	29.8	20.5	98	84	10	10	.1	☊ d ● a. d ☋ p.
28	29.2	22.5	96	85	10	10	3.8	☊ d a. ●° a. p.
29	26.8	24.2	95	96	10	10	173.8	●² a. p.
30	24.7	22.8	99	97	10	10	246.1	●² ↙ ┬ a. p.
Mean	29.4	22.5	95.7	83.2	9.9	7.5	------	
Total	------	------	------	------	------	------	762	

SAN FERNANDO, UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	23.4	94	72	8	2	------	☊² a. ↙° p.
2	31	22.9	97	73	1	4	------	☊² a.
3	31	22.7	96	68	1	4	0.3	☊² a. d² p.
4	31.5	22.6	97	66	1	2	------	☊² a. ┬° ↙° p.
5	32.3	23.2	88	65	7	7	------	☊° a.
6	29	20.9	96	73	10	10	------	☊² a.
7	31.1	21.5	97	66	10	10	------	☊² a. ⊕ a. p.
8	29.5	22.1	97	77	9	6	------	☊² d° a.
9	29.7	22	95	74	4	9	------	☊² a.
10	30.3	21.2	96	72	8	4	------	↙° ☊° a. ⌒° p.
11	31.1	21.5	96	69	7	1	------	☊² a.
12	30.9	21.5	96	69	1	1	------	☊² a.
13	30.8	21.7	96	71	1	1	------	☊² a.
14	30.8	21.5	96	68	1	1	------	☊² a. ↙° p.
15	30.2	21.3	96	70	4	3	.3	☊² a. d² p.
16	31.4	21.4	96	67	2	2	------	☊² a.
17	31.2	21.5	96	60	1	4	------	☊² a. ┬° ↙° ☋ p.
18	29.8	21.7	96	73	1	9	------	☊° a. d° ⌒° ┬° p.
19	30.8	21.6	94	64	8	1	------	☊° a.
20	30.4	21.5	96	65	10	9	------	☊° a. ☋ p.
21	29.6	21.7	96	68	9	7	------	☋° p.
22	30.1	20.9	97	63	9	1	------	☊° a.
23	29.7	20.4	96	64	10	1	------	☊° a.
24	28.6	20.1	95	72	7	10	------	☊² a.
25	30.8	20.5	96	58	9	9	------	☊° ⊕ a.
26	32.9	22.3	96	58	9	7	------	○° a. p.
27	30.8	21.1	97	71	2	9	------	☊² a. ○² a. p.
28	30	21.9	97	76	5	9	------	☊² a. ⊕ a. p.
29	28.6	22	97	76	10	10	.5	☊² d° a. d² p.
30	27.7	22.7	96	83	10	10	.3	d² p.
Mean	30.4	21.7	95.8	69	5.8	5.4	------	
Total	------	------	------	------	------	------	1.4	

ECHAGUE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.4	22.6	94	69	9	6	------	⌒ d° p.
2	32	22.6	97	64	9	4	0.5	≡ ☊² a. ⌒ d° ↙° p.
3	31.7	22	96	75	6	7	------	≡ ☊² a. ⌒ p.
4	32.6	21.9	96	63	6	4	------	≡ ☊² a.
5	31.4	20.8	96	61	6	4	------	≡ ☊² a.
6	29.9	21.5	93	68	9	9	3.9	d° a. p° ● p.
7	28.9	21.4	96	78	9	8	32.3	p° a. p ● p.
8	28.8	22.5	98	83	10	8	30.2	● a. d° ● p.
9	28.5	22.5	96	83	9	5	7.3	d a. p. ● p.
10	29.8	22.3	96	70	10	9	1	≡ ☊ a. d p.
11	28.8	22.1	97	83	10	8	1.8	≡ ☊² d a. ● p.
12	29.9	22.4	97	73	9	4	.8	≡ ☊² d° a. d p.
13	31.5	21.7	96	64	10	5	.3	d a.
14	30.8	22.5	94	75	9	3	.8	☊² d a. p° p.
15	26.8	21.6	94	84	10	10	4.5	d a. p. ●° p.
16	27.3	21.9	97	82	9	8	4	d a. p. ● p.
17	26.4	21.8	96	92	9	10	16.7	≡ ☊² d a. d ● p.
18	29.8	21.8	96	72	10	4	------	≡ ☊ a.
19	31.3	22	91	68	9	2	10.9	≡ ☊ a. ● p.
20	25.5	22.3	96	91	10	10	18	● d a. p.
21	28.1	20.9	95	73	9	6	------	☊ a.
22	27.3	19.4	95	76	10	7	.3	≡° ☊² a. d p.
23	28.3	20.3	94	69	9	8	2.5	☊² a. ●° p.
24	26.4	21.3	95	79	10	8	------	☊ d° a.
25	23.6	19.9	94	91	10	10	25.9	d ● p.
26	31.7	21.6	96	62	10	4	------	
27	30.8	20	93	70	8	6	------	
28	28.4	21.5	96	79	9	7	.3	≡ ☊ d° a. d p.
29	24	22.2	95	95	10	10	42	d ● a. p.
30	22.4?	21.4	96	96	10	10	66.8	●² a. p.
Mean	28.8	21.6	95.4	76.3	9.1	6.8	------	
Total	------	------	------	------	------	------	270.8	

Meteorological data for third and fourth class stations—Continued.

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.9	25	89	77	4	2	------	☊² a. ◠° p.
2	30.5	24.8	88	75	0	5	------	☊² a. ⟆° p.
3	29.9	23.6	88	73	2	4	1	☊² a. ☂° p.
4	30.5	24.9	88	71	1	4	------	☊² a. ┬° ⟆ p.
5	30	24.8	90	77	8	7	------	☊² a.
6	30.9	22.5	81	65	4	9	------	☊² a.
7	30.5	23	79	71	4	9	------	☊² a.
8	30.5	23	87	73	4	7	------	☊² a.
9	29.9	23.5	88	75	8	7	------	☊² a. ┬° p.
10	30.5	23.4	90	71	0	4	------	☊² a.
11	29	23.4	88	74	3	1	------	☊² a. d° p.
12	30.5	23	86	69	0	0	------	☊² a.
13	29.9	23.4	88	72	0	2	------	☊² a.
14	29.9	23	88	73	0	2	------	☊² a. ⟆ p.
15	31	22.4	87	65	1	3	------	☊² a.
16	30.2	23	84	65	4	7	------	☊² a.
17	30.5	23.2	90	71	2	4	2.5	☊² a. ┬° p° ◠° p.
18	30.1	23.1	89	70	5	3	13.5	☊² a. ◠° ● p.
19	30.1	23.8	91	75	2	3	------	☊² a.
20	30.9	23.5	88	62	4	3	------	☊ a.
21	29.5	22.7	80	69	2	6	------	☊² a.
22	28.9	22.1	80	62	8	1	------	
23	29.9	21.5	86	64	4	2	------	☊ a.
24	27.9	21.4	87	74	2	9	------	☊☊² a.
25	30.3	21.4	77	59	3	10	------	☊° a.
26	30.9	21.2	86	68	10	6	------	
27	30.5	24	88	71	3	7	------	☊² a.
28	29.5	23.7	91	80	9	10	------	☊² a.
29	28.2	28.5	81	82	10	10	1	┬° a. d° p.
30	26.9	23.5	92	90	10	10	1	p° a. d° a. p.
Mean	29.9	23.2	86.5	71.4	3.9	5.2	------	
Total	------	------	------	------	------	------	19	

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	23.5	99	66	10	3	------	☊² ≡² a. ☊ ⟆° p.
2	31.2	23.5	96	69	1	8	------	☊ ≡° a.
3	31.8	22.8	95	59	5	6	------	☊² a.
4	31.1	23.4	92	74	8	7	------	☊ a. ┬ d° ☊ ⟆ p.
5	32.1	22.7	94	56	5	8	------	☊ a. p.
6	32.8	20	91	42	8	8	------	☊ ≡° a.
7	31.6	22.5	89	59	9	9	------	○ a. p. ◠° p.
8	31.3	23	80	63	5	4	------	
9	32.3	23.5	86	56	8	6	------	◠° d° ⟆ p.
10	31.1	22.2	92	64	3	7	------	d° a. p.
11	32.9	23	87	57	5	5	------	
12	34.3	20.5	95	53	4	2	------	☊° ≡° a.
13	31.5	20.8	92	55	1	1	------	☊° a.
14	32.2	22	96	56	1	1	------	☊ ≡° a. ⟆° p.
15	31.9	22.9	78	55	5	6	------	
16	32.3	23.1	84	56	9	3	------	
17	33	21.6	93	58	2	9	0.1	☊° a. ◠° d p.
18	30.9	21.7	92	64	2	4	------	⟆° p.
19	31.5	22.9	95	66	2	4	1	☊° a.
20	29.1	23.7	81	61	10	8	.1	● a.
21	28.4	22.7	72	63	3	3	------	
22	29.4	21	81	59	2	2	------	
23	31.7	18	93	56	1	2	------	☊° a.
24	30.5	20.8	79	51	2	6	------	
25	31.5	17.4	90	56	8	10	------	○° ⌣ p.
26	31.7	24	88	75	10	10	------	
27	31.1	22.8	94	64	8	5	------	☊° a. ⌣° p.
28	32.3	20.5	96	56	10	10	------	☊ ≡° a.
29	30.9	24.9	69	62	9	10	1.5	d ● p.
30	27.9	23.7	67	86	10	10	------	d° a. p.
Mean	31.4	22.2	87.9	60.6	5.5	5.9	------	
Total	------	------	------	------	------	------	2.7	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27	22	92	92	8	10	57.6	d ●° a. p ●² p.
2	26.2	21.4	91	89	10	10	4.3	●° d a.
3	29.9	22.4	90	84	5	3	------	
4	30.9	24.1	92	78	4	8	.4	●° p.
5	30.5	22.3	87	75	2	3	15.5	● p.
6	30	20.9?	83	78	4	5	------	
7	30.2	22.8	85	72	8	6	------	
8	29	22.9	86	83	5	4	------	
9	29.5	23.6	85	74	4	3	27.4	● p.
10	28	22	81	92	6	10	25.9	● d p.
11	27.4	21.6?	82?	84	8	10	14.7	● a. p. d° p.
12	29	21.6?	85?	84	3	8	1.8	d° ●° p.
13	30.8	23	89	80	4	8	18.1	d a. p. ● p.
14	26.2	21	90	82	10	10	21.5	● d a. p.
15	26	19.6	81	75	10	8	2.5	●° d p.
16	26.1	20.6	89	82	10	10	11	● d a. p.
17	28.6	21.1	90	78	6	5	6.4	d° a.
18	29.4	21.7?	87	74	6	7	10.8	● a.
19	25.1	22.4	89	87	10	10	61.9	● a. ●² p.
20	23.5	19.1	82	82	10	10	5.4	↙° ●° d a. p.
21	25.4	18.5	77	63	5	3	1.2	d° a. ↙° p.
22	26.1	19.5	82	63	6	7	12.9	◠ d a. ● a. p.
23	23.7	19.4	76	74	9	8	3.8	● ◠² a. d a. p.
24	24.4	19	72	73	8	7	1.5	d° a. p. ●° p.
25	26.5	19.8	86	87	10	10	5	p a. p ● p.
26	26	21.4	93	88	10	10	8.6	d ●° a. ● p.
27	29.9	23	91	73	8	7	7.1	● p.
28	25.6	21.9	93	91	9	10	43.1	● d a. p.
29	25	20.9	90	89	10	10	11.9	p a. d ● a. p.
30	24.7	20.9	90	86	10	10	41.3	● d a. p.
Mean	27.4	21.3	86.2	80.4	7.3	7.7	------	
Total	------	------	------	------	------	------	421.6	

SEISMOLOGICAL BULLETIN FOR NOVEMBER, 1912.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

1, $21^h\ 28^m\ 22^s$ * [2, $5^h\ 28^m\ 22^s$]. **Butuan** (N Mindanao). Oscillatory earthquake, direction SE–NW, intensity II–III. This earthquake which was but slightly felt in Butuan, seems to have had its origin in the Pacific, a short distance from the coast of Mindanao and at a distance of some 1000 kilometers to the SE of Manila.

9, $5^h\ 55^m$ [9, $13^h\ 55^m$]. **Catbalogan** (W of Samar). Earthquake of intensity III-IV. There was a repetition at $6^h\ 05^m$ [$14^h\ 05^m$].

11, $11^h\ 55^m\ 20^s$ * [11, $19^h\ 55^m\ 20^s$]. **NE of Luzon.** Earthquake of intensity V in the province of Cagayan, and of III–IV in the other provinces of the W as far as Ilocos, and of the S as far as Nueva Vizcaya. It seems to have had its origin in the Pacific at some distance from the eastern coasts of Luzon. It was also slightly felt in the extreme SE of the Island.

13, $5^h\ 49^m$ [13, $13^h\ 49^m$]. **Agusan Valley** (E Mindanao). Earthquake of intensity IV–V and of long duration. It was felt in the whole of the N of the valley, according to data received from Butuan and Talacogon. It is possible that this earthquake had some relation with the disturbance No. 277 registered in Manila and in the observatories of Taihoku, Zikawei, and Irkutsk. However, the origin of the earthquake that caused this disturbance appears to have been at a greater distance to the ESE. We are not in possession of any data that would enable us to say whether the Agusan earthquake was felt only in the valley or whether it was general along the east coasts of Mindanao, as having originated in the Pacific.

23, $1^h\ 31^m$ [23, $9^h\ 31^m$]. **N of Leyte and SW of Samar.** Earthquake whose seat of origin appears to be to the north of the Island of Leyte, probably somewhere near the volcanic Island of Biliran. It had intensity IV in Catbalogan, a neighboring station on the west coast of Samar, and only II–III in Tacloban which is in the northeast of Leyte.

23, $1^h\ 53^m$ [23, $9^h\ 53^m$]. **Agusan Valley** (E Mindanao). Earthquake of intensity III–IV, felt in all the north part of the valley. There was a repetition of the same intensity at $13^h\ 42^m$ [$21^h\ 42^m$] but it extended more to the south. A very weak repetition also occurred at $20^h\ 40^m$ [24, $4^h\ 40^m$].

23, $10^h\ 31^m\ 08^s$ * [23, $18^h\ 31^m\ 08^s$]. **Central Luzon.** Earthquake which was felt in the provinces of Nueva Vizcaya and Benguet. According to the report sent by the Rev. J. Schipman, of Nueva Vizcaya, it had in that place intensity III–IV, and the shocks appeared to be vertical; in Benguet it did not pass intensity III; the origin was consequently most probably in Nueva Vizcaya.

25, $2^h\ 50^m$ [25, $10^h\ 50^m$]. **Batangas** (S Luzon). Oscillatory earthquake of intensity III.

28, $5^h\ 50^m$ [28, $13^h\ 50^m$]. **Talacogon** (Agusan, E Mindanao). Earthquake of intensity IV and of short duration.

[1] The intensity of the earthquakes is given in the notation known as the De Rossi-Forel scale. The time is that indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterik (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in Greenwich mean time (Midnight=0^h), Insular time being added in brackets for the convenience of Philippine readers.

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Mean Greenwich. Midnight=0 h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T_o=7.3, ϵ=3, $\frac{r}{T_o^2}$=0.027; A_E: T_o=7.8, ϵ=3, $\frac{r}{T_o^2}$=0.040. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. *m.* *s.*				
258	1	I_r	eP	21 28 22				
			L	30 36				Felt in eastern Mindanao.
			M_N	32 00	6	12		
			F	54				
259	2	I_r	e	13 32				
			F	14 15				
260	2	I_d	eP	23 05 05				
			L	05 18				
			F	08				
261	3	I_r	eP	6 07 07				Near east coast of Formosa.
			L	09 03				
			M_N	09 19	7	137		
			F	39				
262	5	I_d	eP	4 55 00				
			F	58				
263	5	I_v	eP	12 35 39				Sorsogon (SE of Luzon).
			eL	36 38				
			M_N	37 12	6-7	167		
			M_E	38 11	5-6		43	
			F	51				
264	6	I_v	eP	6 22 20				Sorsogon (SE of Luzon).
			L	23 00				
			M_N	23 35	2-3	28		
			F	31				
265	6	I_d	eP	7 20 48				
			eL	20 57				
			M_N	21 03	1-2	24		
			F	23				
266	7	I_r	eP	7 52 00				
			eS	8 02 08				
			L_E	11 22				
			L_N	11 46				
			M_N	23 08	22	35		
			M_E	28 53	18		48	
			F	9 06				
267	8	III_v	eP	7 54 30				Sorsogon (SE of Luzon). Maximum lost by pens being thrown off through force of shock.
			L	55 12				
			F	8 53				
268	8	I_v	eP	8 57 43				Sorsogon (SE of Luzon). End overtaken by following earthquake.
			L	58 22				
			M_E	59 07	6-7		31	
269	8	I_v	eP	9 00 46				Sorsogon (SE of Luzon).
			L	01 27				
			M_E	02 11	6-7		105	
			F	11				
270	8	I_d	eP	22 53 45				
			L	54 01				
			F	57				
271	9	I_v	eP	1 22 00				Sorsogon (SE of Luzon).
			L	22 42				
			M_E	22 57	2-3		92	
			M_N	23 13	3-4	62		
			F	34				
272	9	I	eP	2 07 50				
			F	13				
273	10-11	I_d	L	23 59 25	1			Horizontal Pendulums.
			F	0 04				
274	11	I_v	eP	11 55 20				Northeastern Luzon.
			F	12 00				
275	12	I	eP	0 31 00				
			L	31 54				
			F	37				
276	12	I_r	M	15 29 00				
			F	42				

Records of the microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. *m.* *s.*				
277	13	I_r	eP	5 19 32				
			S	21 30				
			L	22 39				
			M_E	23 34	7-8		110	
			M_N	24 18	8-9	77		
			F	6 45				
278	13	I_d	eP	20 39 05				
			L	39 26				
			F	42				
279	17	Id	eP	10 38 00				
			F	40				
280	17	Id	eP	14 07 27				
			L	07 44				
			F	11				
281	17	Id	eP	20 34 00				
			L	34 27				
			M_N	34 46	1-2	45		
			F	39				
282	19	Iu	L	15 10 55				
			F	40				
283	19	Id	eP	21 55 46				
			L	56 02				
			M_E	56 06	1-2		46	
			F	59				
284	23	Id	eP	8 05 23				
			L	05 40				
			M_E	05 43	1-2		78	
			F	09				
285	23	Id	eP	10 31 08				Central Luzon.
			L	31 24				
			M_N	31 31	1-2	66		
			F	36				
286	25	Id	eP	14 28 49				
			L	29 05				
			M_N	29 24	2-3	117		
			F	35				
287	29	I_v	eP	22 47 27				Sorsogon (SE of Luzon).
			L	48 06				
			M_N	48 50	4-5	147		
			F	59				
288	30	Id	eP	22 15 03				
			L	15 13				
			F	17 00				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

1, $21^h\ 28^m\ 22^s$ * [2, $5^h\ 28^m\ 22^s$]. **Butuan** (N de Mindanao). Temblor oscilatorio, dirección SE–NW, intensidad II–III. El origen de este temblor de tierra registrado débilmente en Butúan parece se hallaba algo lejos de las costas de Mindanao en el mar Pacífico, a unos 1,000 kilómetros al SE de Manila.

9, $5^h\ 55^m$ [9, $13^h\ 55^m$]. **Catbalogan** (W de Sámar). Temblor de tierra de intensidad III–IV. Repitó a $6^h\ 05^m$ [$14^h\ 05^m$].

11, $11^h\ 55^m\ 20^s$ * [11, $19^h\ 55^m\ 20^s$]. **NE de Luzón.** Temblor de tierra de intensidad V en la Provincia de Cagayán, y de III–IV en las demás provincias del W, hasta Ilocos, y del S, hasta Nueva Vizcaya. Su origen parece se hallaba en el Pacífico algo distante de las costas orientales de Luzón. Sintióse también muy débilmente en el extremo SE de la isla.

13, $5^h\ 49^m$ [13, $13^h\ 49^m$]. **Valle del Agusan** (E de Mindanao). Temblor de tierra de intensidad IV–V y de larga duración. Sentido en toda la parte N del valle, según los datos de Butúan y Talacogon. Es posible que este temblor esté algo relacionado con la perturbación No. 277 registrada en Manila y en los observatorios de Taihoku, Zikawei, e Irkutsk sin embargo, el origen del terremoto causador de la expresada perturbación, parece se hallaba a mayor distancia hacia el ESE. No poseemos datos para decir si el temblor del Agusan se sintió solamente dentro del valle o si fué general en las costas del E de Mindanao, como originado en el mar Pacífico.

23, $1^h\ 31^m$ [23, $9^h\ 31^m$]. **N de Leyte y SW de Sámar.** Temblor de tierra, cuyo origen parece se hallaba al N de la isla de Leyte, probablemente hacia la isla volcánica de Biliran. Tuvo intensidad IV en Catbalogan, estación cercana en la costa W de Sámar, y sólo II–III en Tacloban que está al NE de Leyte.

23, $1^h\ 53^m$ [23, $9^h\ 53^m$]. **Valle del Agusan** (E de Mindanao). Temblor de tierra de intensidad III–IV, sentido en toda la parte N del valle. A $13^h\ 42^m$ ($21^h\ 42^m$) repitió con la misma intensidad, pero tuvo mayor extensión hacia el Sur. Una tercera repetición muy débil ocurrió a $20^h\ 40^m$ [$4^h\ 40^m$ del 24].

23, $10^h\ 31^m\ 08^s$ * [23, $18^h\ 31^m\ 08^s$] **Centro de Luzón.** Temblor de tierra sentido en las Provincias de Nueva Vizcaya y Benguet. Según el *report* enviado por el Rev. J. Schipman, de Nueva Vizcaya, tuvo allí intensidad III–IV, y los choques parecían verticales; en Benguet no pasó de intensidad III; el origen por consiguiente debía hallarse en Nueva Vizcaya.

25, $2^h\ 50^m$ [25, $10^h\ 50^m$]. **Batangas** (S de Luzón). Temblor oscilatorio de intensidad III.

28, $5^h\ 50^m$ [28, $13^h\ 50^m$]. **Talacogon** (Agusan, E de Mindanao). Temblor de tierra, intensidad IV y de corta duración.

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[1] La intensidad de los terremotos se indica conforme a la conocida escala de De Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

THE SORSOGON EARTHQUAKE.

On the 8th November at $7^h\ 54^m\ 30^s$ [8, $15^h\ 54^m\ 30^s$] there occurred in the Province of Sorsogon, SE of Luzon, an earthquake of intensity VIII–IX which was followed by two others of intensity IV–V at $8^h\ 06^m$ and $8^h\ 57^m$. The meizoseismic area was very reduced, being only some 35 kilometers long by 10 kilometers broad, and it took in the town of Sorsogon, the mountains to the N and NW and part of the coast toward the W. Our thanks are due to Sr. D. Salvador Lagdameo, deputy treasurer, for the very complete report of the earthquake which he forwarded to the Observatory, and which will be used to give some idea of the intensity and effects of the earthquake.

Intensity, effects and extension of this earthquake.—From the early morning till midday of the 8th three slight shocks were felt, and in the afternoon at $15^h\ 48^m$ there was another perceptible shock. About seven minutes later ($15^h\ 54^m\ 30^s$) the principal earthquake took place, its movement, according to the cracks in the walls of the High School, was a double one, N–S and E–W. The panic produced among the people was indescribable; with terror depicted on their faces they rushed from their houses, some throwing themselves from the windows, while in the streets they ran hither and thither, trying to escape, and they could not owing to the terrible vibrations of the ground; many women fainted. Happily owing to the lowness of the houses and to the light material of which they were built, as well as to the quickness with which those who were in houses built of masonry left them, there were no fatalities.

The damage caused by the earthquake in Sorsogon was considerable; the high school, a building of squared, concrete blocks bound to each other with iron clamps was cracked in many places while the portico of reënforced concrete was also fissured. In the Constabulary barracks, which is a new building of stone, the E wall fell out, while the other walls were cracked, and the old stone fence which looks to the N was thrown down. Six or seven private houses, built of stone up to the first story, lost some of their walls while others were cracked. Several brick terraces fell in. The facade of the church, built of brick and stone was cracked in several places and threatens to fall. Practically all the more ancient stone buildings in the town were very badly damaged, though it must be said that the construction of these buildings was very faulty, some of them being of round stones from the river bed set in a mortar of lime and sand. In others the beams and joists were so rotten that at the shocks of the earthquake they gave way and caused the ruin of the houses. In the report from which we have taken the above extracts, there is no mention made of fissures in the ground, though it is noted that there were foldings made in the footpaths and that the cement sidewalks were broken in many places, all of which gives us some idea of the amplitude of the undulatory vibrations.

It is also mentioned that a large fissure was opened up in the road between Sorsogon and Gubat, some 6 kilometers E from Sorsogon, while among the hills that lie between Sorsogon and Bacon, many landslides took place, some of them being visible from the house of Sr. Lagdameo. There was no seismic wave as far as was observed, though the water in the bay was agitated as was natural by the force of the shocks, which were clearly perceptible on board the launch *Albana,* the only steamer in the bay at the time.

Beyond the limits of the capital of the province, the towns in which the earthquake was felt with the greatest violence were Gubat, Bacon, Manito, and Pilar, though in none of them was the damage so great as in Sorsogon and that for two reasons: First, because they are situated at the limit of the meizoseismic area, and, second, because in none of these towns were there many masonry buildings. In Gubat, which is some 17 kilometers to the ESE of Sorsogon, a few cracks were made in the walls of the city

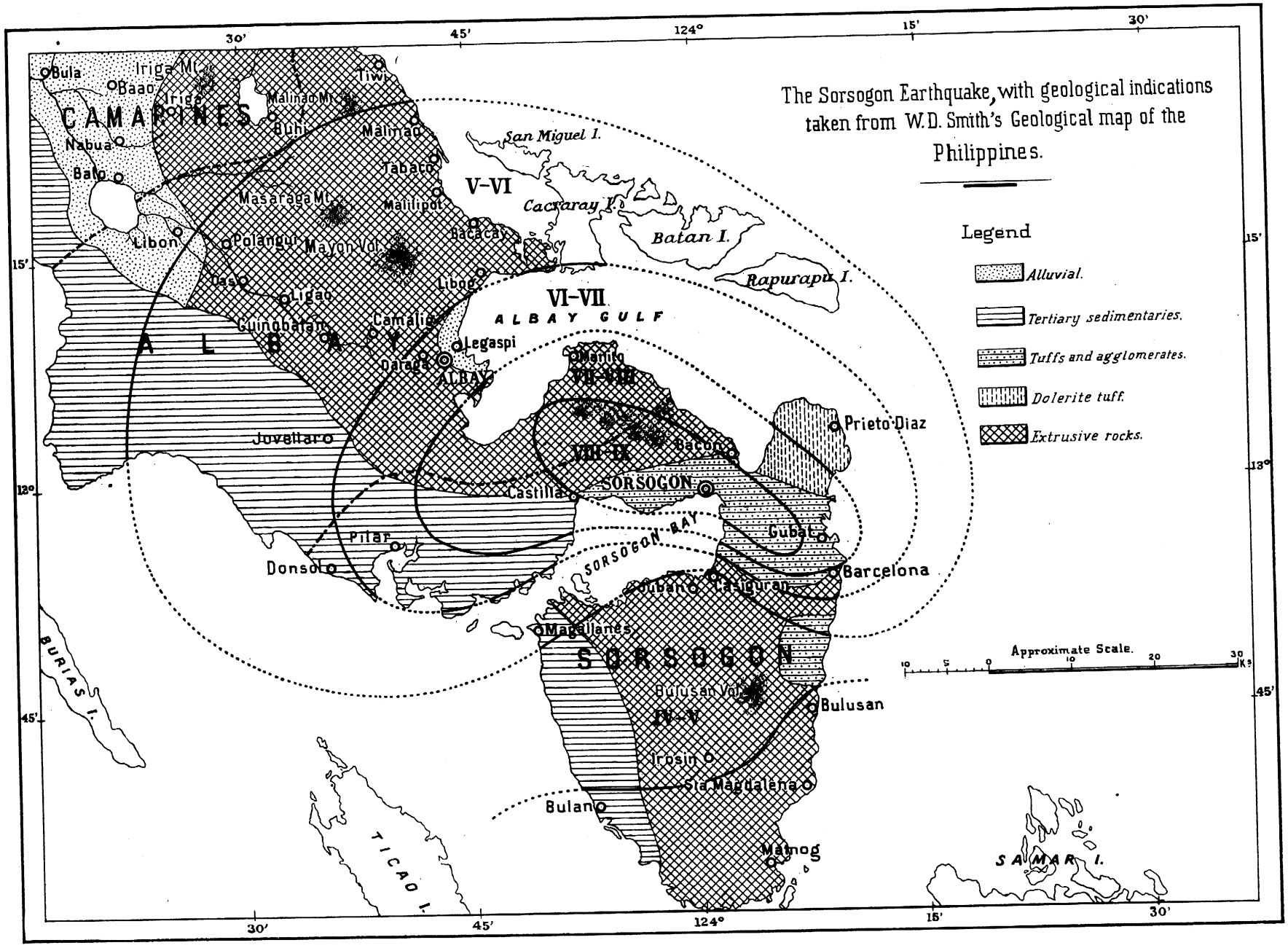
hall and the central school. In Bacon, the city hall, the only building constructed of stone up to the first story, was in a pretty bad state; in all the reports received from this town are mentioned fissures and landslides in the hills to the S and SW, so that many of the abacá (Musa textilis) plantations were greatly damaged. D. Ponciano Imperial and D. Augustin Lelis inform us that there are no masonry buildings in Manito, and hence the damage caused by the earthquake was very slight to houses, though it is mentioned that toward the S many landslides took place and that fissures were opened in the ground, one of them being a meter broad and 30 meters long. The only notice we have received from Pilar is that the earthquake was very violent, but without causing any damage. In none of the towns just mentioned, which are situated on the sea shore, was any wave observed.

Below we give the intensity of the earthquake in many of the towns of the province of Sorsogon, and in a few of the provinces of Albay and Camarines. To the name of town is added its position with regard to Sorsogon. The respective distances from Sorsogon may be seen in the accompanying map.

	Intensity.
Sorsogon, capital of the province	VIII–IX
Bacon, N of Sorsogon	VII–VIII
Castilla, W of Sorsogon	IV?
Gubat, ESE of Sorsogon	VII–VIII
Casiguran, S of Sorsogon	IV–V
Juban, S of Sorsogon	IV–V
Pilar, WSW of Sorsogon	VI–VII
Magallanes, WSW of Sorsogon	V–VI
Manito, NW of Sorsogon	VII–VIII
Irosin, S of Sorsogon	IV–V
Bulan, SSW of Sorsogon	III–IV
Bulusan, SSE of Sorsogon	IV–V
Santa Magdalena, SSE of Sorsogon	IV
Donsol, W of Sorsogon	V–VI
Matnog, SSE of Sorsogon	III–IV
Masbate, SW of Sorsogon	III
Legaspi, NW, Albay	V–VI
Virac, N, Albay	IV
Nueva Caceres, NW, Camarines	III

Isoseismic lines.—With the help of the preceding data the isoseismic lines have been drawn on the accompanying map. It will be seen that the meizoseismic area comprises the southern two-thirds of the land that stretches from the Bay of Sorsogon to the Gulf of Albay, which is occupied by an irregular series of hills and volcanic cones, known under the name of Pocdol. The northern coasts that look on to the Gulf of Albay appear to have been beyond the meizoseismic area, which on the south reached as far as the Bay of Sorsogon. This supposition is in accord with the notes received from Bacon and Manito, in which, while making mention of the effects of the earthquake on the land in the interior among the mountains, it is supposed that it was more violent than on the coasts. The second isoseismal, which incloses Gubat, Bacon, and Manito, must also include the town of Castilla because the earthquake was very intense in the town of Pilar which is at some distance to the W, though for some reason or other in all the notes that have been received up to the present, Castilla figures among the places in which the earthquake had little intensity: may this be owing to some peculiar circumstances of the soil?

The other isoseismals become very irregular in proportion as they depart from the first and second, as if the earthquake was able to conserve its energy more easily towards the N. NW. and W. than towards the E. SE. and S.


The Sorsogon Earthquake, with geological indications taken from W.D. Smith's Geological map of the Philippines.
Legend
Alluvial.
Tertiary sedimentaries.
Tuffs and agglomerates.
Dolerite tuff.
Extrusive rocks.
CAMARINES
ALBAY
ALBAY GULF
SORSOGON
SORSOGON BAY
San Miguel I.
Cacraray I.
Batan I.
Rapurapu I.
BURIAS I.
TICAO I.
SAMAR I.
Bula
Baao
Iriga
Iriga Mt.
Tiwi
Malinao Mt.
Buhi
Malinao
Nabua
Bato
Tabato
Masaraga Mt.
Malilipot
Bacacay
Libon
Polangui
Mayon Vol.
Oas
Ligao
Libog
Guinobatan
Camalig
Legaspi
Daraga
Manito
Jovellar
Prieto Diaz
Bacon
Castilla
Pilar
Donsol
Gubat
Barcelona
Tubaon
Casiguran
Magallanes
Bulusan Vol.
Bulusan
Irosin
Sta Magdalena
Bulan
Matnog
V-VI
VI-VII
VII-VIII
VIII-IX
IV-V
Approximate Scale.
10 5 0 10 20 30 Kms
15'
30'
45'
124°
120°
13°

Preliminary tremors or foreshocks and repetitions.—This earthquake may be described as the maximum phase of a seismic period that lasted from the 5th November till the end of December. On the 5th there were three shocks at $12^h\ 14^m$, $12^h\ 35^m$, $12^h\ 44^m$ [$20^h\ 14^m$, $20^h\ 35^m$, $20^h\ 44^m$], the second one of intensity V–VI, the other two being of intensity IV. On the 6th, there was another shock of intensity IV–V at $6^h\ 22^m$ [$14^h\ 22^m$]. The shocks of these two days registered by a seismometer at the station of Legaspi had a principal direction of SE–NW. The 7th was a seismically calm day, but during the morning of the 8th several earthquakes of small intensity were registered in the meizoseismic area, according to reports received from Sorsogon, Bacon, and Manito, and in the evening seven minutes before the principal earthquake that is at $7^h\ 48^m$ [$15^h\ 48^m$] there was a shock of intensity IV which was perceptible not only in the province of Sorsogon, but also in the E part of Albay. After the principal earthquake which took place at $7^h\ 54^m\ 30^s$ [$15^h\ 54^m\ 30^s$], besides the two repetitions already mentioned, three others were felt at $9^h\ 00^m$, $9^h\ 49^m$, and $11^h\ 26^m$ [$17^h\ 00^m$, $17^h\ 49^m$, $19^h\ 26^m$] and others on the 9th at $1^h\ 23^m$, $12^h\ 54^m$ [$9^h\ 23^m$, $20^h\ 54^m$], all of them of slight intensity but perceptible throughout the area embraced by the isoseismal IV–V of the principal earthquake. Frequent minor shocks continued to be felt within the meizoseismic area all the night of the 8th–9th and the two following days; and on the 11th at $11^h\ 25^m$ [$19^h\ 25^m$] and $21^h\ 56^m$ [12, $5^h\ 56^m$] there were two other repetitions of somewhat greater intensity and extension. On the 15th there was a new repetition of intensity IV which took place at $1^h\ 25^m$ [$9^h\ 25^m$] and scared the people greatly, while on the 30th it was feared that another, like the one on the 8th was going to take place, for at 6.47 Insular time [29, $22^h\ 47^m$ Greenwich time] there was an earthquake of intensity V–VI which was perceptible throughout all the region affected by the one on the 8th; there then followed frequent repetitions of intensity II–III and one at $12^h\ 46^m$ [$20^h\ 46^m$] which reached intensity IV. From this date the calm was reëstablished, for though on the 1st, 7th, 21st, and 26th of December, slight shocks of intensity III–IV were felt, they were isolated shocks, and did not occur frequently at short intervals in the epicentric region, other minor shocks as happened during the month of November.

The seismographs of Manila and Baguio, distant from the epicenter 360 and 520 kilometers, respectively, recorded all the seismic shocks of Sorsogon that had an intensity of IV or more. The principal earthquake was recorded in all the observatories of the Far East, of Asiatic Russia, and in some observatories of Europe, though in these latter the traces were weak.

	h.	m.	s.		h.	m.	s.
Manila, P. I.	7	54	30	Irkutsk, Russia	8	01	20
Baguio, P. I.	7	55	00	Aachen, Germany	8	29	(e L)
Taihoku, Formosa	7	56	47	Hamburg, Germany	8	39	(e L)
Zikawei, China	7	57	39	San Fernando, Spain	8	44	(e L)
Osaka, Japan	7	58	55				

Conclusion.—Soon after the earthquake and before the data we now possess had come to hand, we published in the local press a short article on the subject, in which the earthquake was classified as local and superficial. "Taking into consideration its small area," it was said, "we believe that we have to deal with an earthquake caused by the caving in of underground caverns due to either the dissolution of the rock by subterranean water which rises in Manito and in other places as mineral and thermal springs or to old volcanic action." After a more detailed study of the reports that came to hand after the above article was written we are of the opinion that the view expressed must be modified. For the fact that the earthquake was registered, though faintly, in Europe at distances of more than 10,000 kilometers can not be reconciled

with the idea of a local and superficial earthquake; and the numerous preliminary tremors and aftershocks that occurred during the seismic period also militate against this idea. Again the meizoseismic area has an elongated form in the direction ESE–WNW along the stretch of land which lies between the isthmus of Sorsogon and the Gulf of Albay, and is consequently more extensive than was supposed when the first reports came in. If we now take the geological map of the Philippines, as published by Dr. W. D. Smith, chief of the division of mines [1] and from which were taken the geological indications reproduced in our map, we shall see that the major axis of the meizoseismic area almost coincides with the line of contact between the lands of volcanic origin of the N and the sedimentaries of the S of Sorsogon; and moreover that this line is not coterminous with the district, but seems to be a prolongation to the ESE of the seismotectonic line of the Camarines, which in this case would reach as far as the sea after passing through the lowland of Sorsogon and Gubat. From this we think that it is possible to deduce that the recent earthquakes of Sorsogon were due to movements or dislocations in the eastern part of the Camarines seismotectonic line, and hence were of a tectonic character, like the ones that took place along the same line but farther west in 1907. This deduction is all the more probable because it is quite evident that the Sorsogon earthquakes were not of volcanic origin properly so called, since none of the volcanoes in the vicinity showed the slightest increase of volcanic activity which could have any relation with these earthquakes. It was for this reason that in the article mentioned above the only cause suggested was rockfalls and dislocations at slight depths occasioned by ancient volcanic action. But as it cannot be denied that the tectonic movements which produced the earthquakes had but little extension we do not think it is hazardous to suppose that they were relatively shallow and consider them as secondary: perhaps they may be called movements of readjustment tending to restore or settling down of equilibrium or to diminish strains resultant from previous more important dislocations that have contributed to the formation of the present landscape of this part of the Island of Luzon.

[1] The mineral resources of the Philippine Islan ds, 1909.

EL TERREMOTO DE SORSOGON.

El día 8 de Noviembre a $7^h\ 54^m\ 30^s$ [8, $15^h\ 54^m\ 30^s$] ocurrió en la Provincia de Sorsogón (SE de Luzón), un terremoto de intensidad VIII–IX, al cual siguieron dos repeticiones de intensidad IV–V a $8^h\ 06^m$ y $8^h\ 57^m$: su área meizoséismica fué muy reducida, de unos 35 kilómetros de largo por 10 de ancho, la cual según los datos que se aducirán más abajo, comprendió la población de Sorsogón, los montes vecinos del N y NW y parte de la costa hacia el W. Debemos al Sr. D. Salvador Lagdameo, *deputy treasurer*, un *report* muy completo, que nos bastará resumir en parte para dar cabal idea de la intensidad, efectos y extensión de este terremoto.

Intensidad, efectos y extensión.—El día 8 por la mañana hasta medio día se sintieron tres temblores de tierra de poca intensidad y por la tarde, a eso de las $15^h\ 48^m$, otro poco perceptible. Unos siete minutos después [$15^h\ 54^m\ 30^s$] sobrevino el terremoto principal, cuyos movimientos, según demuestran las grietas producidas en las paredes del High School fueron dobles; N–S y E–W. No puede figurarse el pánico que el terremoto causó a los habitantes todos de este pueblo; con el terror pintado en sus rostros se atropellaban para abandonar las casas, echándose muchos por las ventanas; el primer impulso de los que estaban en la calle fué echarse a correr sin saber hacia donde, pero no les era posible por los terribles vaivenes del suelo; muchas mujeres se desmayaron. Por fortuna, debido a la poca altura y la naturaleza de los materiales ligeros de que constan casi todas las casas y a la prontitud con que salieron fuera los que se hallaban dentro de las de mampostería, no hubo que lamentar desgracias personales.

Los daños causados por el terremoto son en Sorsogón considerables: El High School, edificio de sillares unidos con pernos de hierro y concreta presenta varias grietas en las paredes y en algunas de las columnas del pórtico, construídas de cemento armado. Del cuartel de los constables, se cayó la pared E, de piedra y pocos años antes construida, presentando las demás algunas grietas: también se vino al suelo la cerca de piedra, muy antigua, que mira al N. Seis o siete casas de particulares, todas de piedra hasta el primer piso, perdieron alguno de sus muros, quedando otros con grietas; asimismo se hundieron algunas azoteas de ladrillo. El frontispicio de la iglesia, de ladrillo y piedra, quedó muy agrietado y amenaza ruina. Puede decirse que quedaron con daños considerables todos los edificios de piedra algo antiguos. Su construcción no parece fuese esmerada; algunos constaban de cantos rodados de río con argamasa de cal y arena; en algunos casos la ruina se debió a estar pudridos los harigues y soleras. No se menciona en el *report* que extractamos, la formación de grietas dentro de la población, pero sí algunas dobladuras en las aceras y roturas de sus bordes de cemento, lo cual da una idea de la amplitud del movimiento ondulatorio. Cítanse una larga grieta al E de Sorsogón, en el kilómetro 6 de la carretera que conduce a Gubat, y muchos desprendimientos en las colinas entre Sorsogón y Bacon, algunos de los cuales se veían desde la casa del Sr. Lagdameo. En la bahía no se notó ola séismica, solamente alguna agitación en las aguas al momento del terremoto como es natural: los choques sin embargo fueron muy perceptibles a bordo de la lancha *Albana* único vapor anclado entonces frente a Sorsogón.

Fuera de la capital de la provincia los pueblos donde se sintió con más violencia el terremoto fueron los de Gubat, Bacon, Manito y Pilar, pero ninguno de ellos sufrió daños tan notables, ya por hallarse en el límite del área meizoséismica, ya también por no existir apenas edificio alguno de mampostería. En la población de Gubat que dista unos 17 kilómetros hacia el ESE, se produjeron algunas grietas en las paredes del municipio y del Central School. En Bacon quedó mal parado el edificio municipal, único con paredes de piedra en la parte baja; en cambio todos los *reports* hablan de las muchas

grietas y resbalamientos de terreno producidos en los collados del S y SW de esta población, con destrucción de muchos sembrados de abacá (musa textilis). De Manito nos informan los Sres. D. Ponciano Imperial y D. Agustin Lelis, que allí no existe edificio alguno de mampostería; así que los daños causados por la violencia del terremoto no son de consideración; pero añaden que hacia el sur se han producido desprendimientos y grietas en el terreno, citando una de cerca de un metro de anchura por 30 de longitud. De Pilar sólo sabemos que fué allí muy fuerte el terremoto pero sin causar daños. En ninguno de los tres primeros pueblos mencionados, costeros todos, se notó oleaje alguno en el mar.

A continuación ponemos un resumen de la intensidad del terremoto tanto en los citados pueblos como en otros principales de la provincia de Sorsogón y de las vecinas de Albay y Camarines. Al nombre de la población hemos añadido su posición con respecto a Sorsogón: las distancias respectivas pueden verse en el mapa que acompaña.

	Intensidad.
Sorsogon, capital de la provincia	VIII–IX
Bacon, N de Sorsogon	VII–VIII
Castilla, W de Sorsogon	IV?
Gubat, ESE de Sorsogon	VII–VIII
Casiguran, S de Sorsogon	IV–V
Juban, S de Sorsogon	IV–V
Pilar, WSW de Sorsogon	VI–VII
Magallanes, WSW de Sorsogon	V–VI
Manito, NW de Sorsogon	VII–VIII
Irosin, S de Sorsogon	IV–V
Bulan, SSW de Sorsogon	III–IV
Bulusan, SSE de Sorsogon	IV–V
Santa Magdalena, SSE de Sorsogon	IV
Donsol, W de Sorsogon	V–VI
Matnog, SSE de Sorsogon	III–IV
Masbate, SW de Sorsogon	III
Legaspi, NW, Albay	V–VI
Virac, N, Albay	IV
Nueva Cáceres, NW, Camarines	III

Además del Sr. Lagdameo, han enviado también interesantes datos los Sres. tesoreros municipales de Irosin, Bulan, Donsol, Bulusan, Bacon, Magallanes y Santa Magdalena a quienes todos damos las gracias.

Líneas isoséistas.—Con los datos precedentes se han trazado las líneas isoséistas del mapa que acompaña. En él se ve que el área meizoséismica comprende propiamente los dos tercios meridionales del terreno relativamente estrecho que media entre la bahía de Sorsogón y el Seno de Albay, ocupado por una serie irregular de colinas y conos volcánicos, conocida con el nombre de Pocdol. Las costas norte que miran al Seno de Albay parece estuvieron fuera del área meizoséismica, mientras que por el sur llegaba hasta la bahía de Sorsogón. Esta suposición está conforme con las notas recibidas de Bacon y Manito en las que al mencionar los efectos del terremoto en los terrenos del interior de los montes, se supone que debió tener allí mayor violencia que en la costa. La segunda isoséista que encierra Gubat, Bacon y Manito debería también encerrar el pueblo de Castilla, tanto más habiendo sido muy intenso en el pueblo de Pilar, muy distante hacia el W, sin embargo en todas las notas recibidas, Castilla figura entre los pueblos donde el terremoto tuvo poca intensidad: será esto debido a circunstancias especiales del suelo?

Las otras isoséistas resultan mas irregulares a medida que se alejan de la primera y segunda, como si el terremoto hubiera conservado más fácilmente su energía hacia el N, NW y W que hacia el E, SE y S.

Temblorcitos preliminares y repeticiones.—Este terremoto puede decirse que constituye el máximo de un período séismico que duró desde el 5 de Noviembre hasta fines de Diciembre. En efecto: el 5 ocurrieron tres temblores a $12^h\ 14^m$, $12^h\ 35^m$ y $12^h\ 44^m$ [$20^h\ 14^m$, $20^h\ 35^m$, $20^h\ 44^m$], el segundo de intensidad V–VI y los restantes de intensidad IV; sentidos todos en la parte N de la Provincia de Sorsogón y E de la de Albay. El día 6 a $6^h\ 22^m$ [$14^h\ 22^m$] ocurrió otro de intensidad IV–V: los temblores de estos dos días registrados por un seismómetro de la estación de Legaspi tenían todos la dirección principal SE–NW. El 7 parece haber sido de calma séismica. Durante la mañana del día 8, se registraron otra vez en la región meizoséismica varios temblores de poca intensidad, mencionados en las notas de Sorsogón, Bacon y Manito. Por la tarde, siete minutos antes del principal, o sea, $7^h\ 48^m$ [$15^h\ 48^m$], se sintió otro de intensidad IV perceptible no sólo en la Provincia de Sorsogón sino también en la parte E de Albay. Después del terremoto principal a $7^h\ 54^m\ 30^s$ [$15^h\ 54^m\ 30^s$] además de las dos repeticiones de intensidad IV–V mencionadas antes, se sintieron tres más a $9^h\ 00^m$, $9^h\ 49^m$ y $11^h\ 26^m$ [$17^h\ 00^m$, $17^h\ 49^m$, $19^h\ 26^m$] y otras el día 9 a $1^h\ 23^m$ y $12^h\ 54^m$ [$9^h\ 23^m$, $20^h\ 54^m$], todas de menor intensidad pero perceptibles en todo el área que abraza la isoséista IV–V del terremoto principal. Dentro del área meizoséismica continuaron sintiéndose frecuentemente ligeros choques de intensidad II–III, toda la noche del 8 al 9 y los dos días siguientes. El 11 a $11^h\ 25^m$ [$19^h\ 25^m$] y $21^h\ 56^m$ [12, $5^h\ 56^m$] hubo dos repeticiones de alguna mayor intensidad y extensión. El 15 una repetición de intensidad IV que tuvo lugar a $1^h\ 25^m$ [$9^h\ 25^m$] vino a sobresaltar de nuevo los ánimos. Por fin el día 30 se temió mucho ocurriese otra catástrofe como la del día 8; a $6^h\ 47^m$ de tiempo insular [29, $22^h\ 47^m$ T. de G.] se experimentó un temblor de intensidad V–VI perceptible en toda la región en que lo había sido el desastroso del día 8: siguieron luego frecuentes repeticiones de intensidad II–III y una a $12^h\ 46^m$ [$20^h\ 46^m$] que llegó a intensidad IV; pero afortunadamente desde esta fecha se fué restableciendo nuevamente la calma; pues aunque los días 1, 7, 21, y 26 de Diciembre, se sintieron temblores de intensidad III–IV, estos sin embargo se presentaron como choques aislados, sin que ocurriesen frecuentemente en la región epicéntrica otros de menor intensidad como sucedía durante el mes de Noviembre.

Los seismógrafos de Manila y de Baguio distantes del epicentro 360 y 520 kilómetros respectivamente registraron todas las sacudidas séismicas de Sorsogón que tuvieron intensidad IV o más. En los Observatorios de fuera del Archipiélago se registró el terremoto principal en todos los del Extremo Oriente, de la Rusia Asiática y muy débilmente en algunos de Europa, como demuestran los datos siguientes:

	h.	m.	s.		h.	m.	s.
Manila, I. F.	7	54	30	Irkutsk, Rusia	8	01	20
Baguio, I. F.	7	55	00	Aachen, Alemania	8	29	(e L)
Taihoku, Formosa	7	56	47	Hamburgo	8	39	(e L)
Zi-Ka-Wei, China	7	57	39	San Fernando, España	8	44	(e L)
Osaka, Japón	7	58	55				

Conclusión.—Poco después del terremoto de Sorsogón y antes de que llegasen a nuestras manos muchos de los datos que hoy poseemos, publicamos un artículo en los periódicos locales en el cual lo clasificábamos entre los de carácter muy local y superficial; "Atendida su pequeña área o extensión, decíamos, creemos que se trata de terremotos de hundimientos de cavernas, ya provengan éstas de la disolución de rocas por las aguas subterráneas, que surgen luego en Manito y otros varios sitios como aguas minerales y termales, ya de antigua acción volcánica." Después de estudiar detenidamente todos los datos recibidos más tarde y considerar la constitución geológica de la región epicéntrica, juzgamos que conviene modificar algo nuestro juicio. El haberse registrado aunque debilísimamente en Europa, o sea a distancias de más de 10,000 kilómetros no se compagina

bien con un terremoto de origen muy superficial. Tampoco concuerdan con esta idea los numerosos choques precursores y las innumerables repeticiones que ocurrieron durante el período séismico. Por otra parte se ve que el área meizoséismica o epicentral tiene una forma prolongada en la dirección ESE–WNW a lo largo del terreno que media entre el istmo de Sorsogón y el Seno de Albay y es, por consiguiente, más extensa de lo que hacían creer las primeras noticias. Ahora bien, si tomamos el mapa geológico de Filipinas, publicado por el Dr. W. D. Smith, jefe de la división de Minas [1] y nos fijamos en las indicaciones correspondientes a la citada región, y que a este fin hemos reproducido en el mapa que acompaña, no podremos menos de notar que el eje del área meizoséismica casi coincide con la línea divisoria entre los terrenos de origen volcánico del N y los sedimentarios del S, y que esta línea no está circunscrita a esta región sino que parece ser una prolongación hacia el ESE de la línea seismotectónica de Camarines, la cual en este caso llegaría hasta el mar, recorriendo las tierras bajas y tobáceas de Sorsogón y Gubat. De aquí parece poder deducirse que los últimos terremotos de Sorsogón fueron debidos a movimientos o dislocaciones en la parte oriental de la línea seismotectónica de Camarines y por consiguiente de carácter tectónico, como los más recientes ocurridos en la misma línea en 1907. Semejante deducción es tanto más fundada cuanto que está fuera de duda que los terremotos de Sorsogón no fueron propiamente volcánicos; pues ni tuvieron como centro volcán alguno de los varios existentes en las cercanías, ni se notó en ellos aumento alguno de actividad que pudiese relacionarse con tales terremotos; por esta razón en el artículo arriba citado solo concedíamos la posibilidad de que su causa fuesen dislocaciones poco profundas resultantes de antigua acción volcánica. Como no puede tampoco negarse que los movimientos tectónicos que produjeron estos terremotos tuvieron poquísima extensión, creemos que no es aventurado suponerlos relativamente poco profundos y considerarlos como secundarios, que podemos tal vez llamar de ajuste, por tender a compensar desequilibrios y disminuir tensiones iniciadas o resultantes de otras dislocaciones tectónicas anteriores y de más monta, que contribuyeron al actual relieve de esa parte de la isla de Luzón.

[1] The mineral resources of the Philippine Islands, 1909.

BULLETIN FOR DECEMBER, 1912.

118174

METEOROLOGICAL BULLETIN FOR DECEMBER, 1912.

By Rev. JOSÉ CORONAS, S. J.,

Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure of the month was slightly less than that of December of last year in all the stations to the south of Manila, and slightly higher to the north of Manila. The lowest pressures were on the 4th and 5th in all parts of the Archipelago owing to a typhoon in the Pacific to the E. of Luzon.

The mean monthly temperature was almost identical with that of December of last year in some stations, and in others slightly less. The extreme temperatures for Manila were 32.4° C. and 18.2° C., the maximum being registered on the 13th and 27th, the minimum on the 8th.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS FOR DECEMBER, 1912.

Station.	Pressure.						Temperature.					
	Mean.	Departure from Dec., 1911.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from Dec., 1911.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	759.41	—0.07	760.70	1	757.86	4	25.9	0	33.7	12, 13	19	19
Surigao	59.43		60.78	1	57.40	4	25.9		32.5	5	20.5	19
Cebu	59.58	+ .02	60.90	1	57.91	4	26.7	+0.3	31.2	28	22	1
Iloilo	59.32	— .26	60.42	1	57.84	5	26.1	0	31	3, 6	20.5	19
Ormoc	59.71	— .10	60.93	29	57.81	4	26.2	+ .2	32.3	26	19.3	18
Tacloban	59.80	— .28	61.14	29	57.01	4	(a)					
Capiz	60.10	— .21	61.52	28	57.83	4	26.2	0	31.9	5, 29, 31	21.5	19
Calbayog	59.77	— .35	61.07	29	56.78	4	25.3	— .4	32.3	15	19.2	18
Legaspi	60.25	— .26	61.69	29	56.60	4	25.7	—1	32.4	2	19.1	18
Atimonan	60.79	— .05	62.22	10	57.37	5	25.6	— .8	31.5	2	20.8	27
Paracale	60.98	— .07	62.42	10	57.25	4	25.9	— .2	30.8	5	21.6	2
Manila	60.80	+ .02	62.08	30	57.91	5	24.8	— .1	32.4	13, 27	18.2	8
San Isidro	61.06	+ .07	62.32	25	57.91	5	24.7	— .2	32.1	20	17.1	8
Dagupan	60.33	— .12	61.55	30	57.28	5	25.7	+ .3	34.5	2	17.7	8
Bolinao	60.40	+ .08	61.63	14	57.71	5	25.9	+ .1	32	11, 13, 30	18.6	8
Baguio[b]	637.71	+ .12	639.06	14	635.28	5	17.4	— .1	25.7	13	10.8	8
Vigan	760.53	+ .13	761.92	28	758.03	4	25.7	+ .3	34.5	26	17.8	7
Tuguegarao	62.34	+ .88	65.09	10	58.03	5	23.2	—1	32.5	14	16.7	8
Aparri	62.42	+1	65.55	10	58.52	5	23.9	— .1	30	2, 14	17.8	13

[a] The thermometer-shelter was destroyed during a typhoon on November 24–25, 1912.
[b] The barometric readings of this station are not reduced to sea level.

Precipitation.—With a few exceptions the amount of rain that fell in the stations was below the normal for December, though if compared with the rainfall of December, 1911, we find that with the exception of the stations in Mindanao and northern Luzon the differences are positive.

In Manila the amount of rain for the month was 13.9 mm., which is greater than that of December, 1911, by 5.9 mm. and less than the December normal by 46.5 mm.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF DECEMBER, 1912.

Station.	Total.	Departure from Dec., 1911.	Departure from normal.	Rainy days.	Departure from Dec., 1911.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from Dec., 1911.	Departure from normal.	Rainy days.	Departure from Dec., 1911.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*	*mm.*			*mm.*			*mm.*	*mm.*	*mm.*			*mm.*	
Jolo	110.5	+ 20	− 47.8	17	−13	23.8	13	Sumay, Guam	243.8	+193		13	− 4	76.2	1, 16
Isabela, Basilan	33	− 64.2		9	+ 2	8.9	22	Calapan[b]	108.9						
Zamboanga	86.7	− 1.9	− 17.5	12	+ 6	42.7	16	Virac	288.8	+ 196.6		23	+ 1	76.7	23
Davao	89.4	−109.1	−117.4	4	−10	53.3	16	Nueva Caceres	199	+156.6	− 60.5	19	+ 9	28	24
Cotabato	59.3		− 78.5	11		12.7	14	Batangas	25.3	− 12.1		9	+ 3	11.7	25
Cagayan, Misamis	5.6	− 55		4	− 7	1.8	11	Atimonan	261.5	+203.9	−112.8	20	+ 6	61	31
Dapitan[a]	177.4			17		49.3	23	Silang	85	+ 40.7		10	+ 1	11.5	29
Butuan	100.5	−147	−236.9	18	− 5	20.1	16	Paracale	492	+372.2		23	0	141.5	24
Dumaguete	50.2	− 3.4		13	+ 2	25.9	23	Sta. Cruz, Laguna	79	+ 20.4		16	+ 3	49.4	25
Yap, W. Carolines	176.1	+ 56.6		25	− 2	49	2	Manila	13.9	+ 5.9	− 46.5	9	+ 6	7.4	26
Tagbilaran	40.3	+ 7.9	−129	8	+ 1	12.4	21	Antipolo	32.9	+ 27.3		8	+ 5	8.9	31
Surigao	272.4	−118.3	−257.4	21	− 5	36.8	23	Iba	.4	− 36.7		1	− 1	.4	30
Maasin	199	−119.5	−110.8	11	0	35.6	7	San Isidro	31.8	+ 12	− 17.1	7	− 2	19.3	26
Cebu	106.9	+ 40.1	− 52.9	17	+ 3	19.3	12	Tarlac	8.7	− 20.7	− 33.9	1	− 2	8.7	26
Iloilo	37.9	− 11	− 88	10	+ 1	8.3	9	Baler	457.8	+343.2		19	+ 3	249.1	26
San Jose Buenavista	16.4	− 16.4		6	+ 6	11.2	22	Dagupan	7.9	− 22.4	− 8.1	4	+ 1	4.1	3
Cuyo	.4	+ .4		1	+ 1	.4	22	Bolinao	2.3	− 30.3	− 10.4	2	− 1	1.5	2
Ormoc	65.3	+ 23.2	− 114	17	+ 4	13.2	13	Baguio	6.8	−269.8	− 51.4	3	0	5.2	26
Tacloban	226	+ 85.2		24	0	58.1	10	San Fernando, Union[c]	1.3	− 41.5	− 8.5	1	− 2	1.3	26
Capiz	49.7	− 12.5	−225.2	15	− 1	12.3	10	Echagüe	123.9	+ 66.4		11	0	72.7	26
Borongan	467.8	+189	−136.3	22	− 6	91.7	9	Candon	0	− 49.2		0	− 2	0	0
Calbayog	142.2	+ 88.4	−121.6	15	+ 3	38.3	10	Vigan	0	− 33.5	− 6	0	− 4	0	0
Masbate	190.5	+145.9		15	+ 3	63	25	Tuguegarao	201.3	− 82.7	+ 41.8	13	+ 3	138.9	26
Romblon	225.8	+182.5		20	+ 8	56.9	25	Laoag	7.5	− 37.1		3	− 1	4.3	2
Laoang	510.4	+410.8		25	+ 4	135.9	22	Aparri	310.2	− 43.4	+ 63.4	21	+10	134.1	26
Gubat	285.9	+202.1		21	+ 9	56.9	22	Sto. Domingo, Batanes.	395.9	− 53.2		25	+ 7	62.9	23
Legaspi	574.5	+502.8	+ 79.6	19	+ 3	138.8	25								

[a] 30 days of observation. [b] 27 days of observation. [c] 29 days of observation.

DEPRESSIONS AND TYPHOONS.

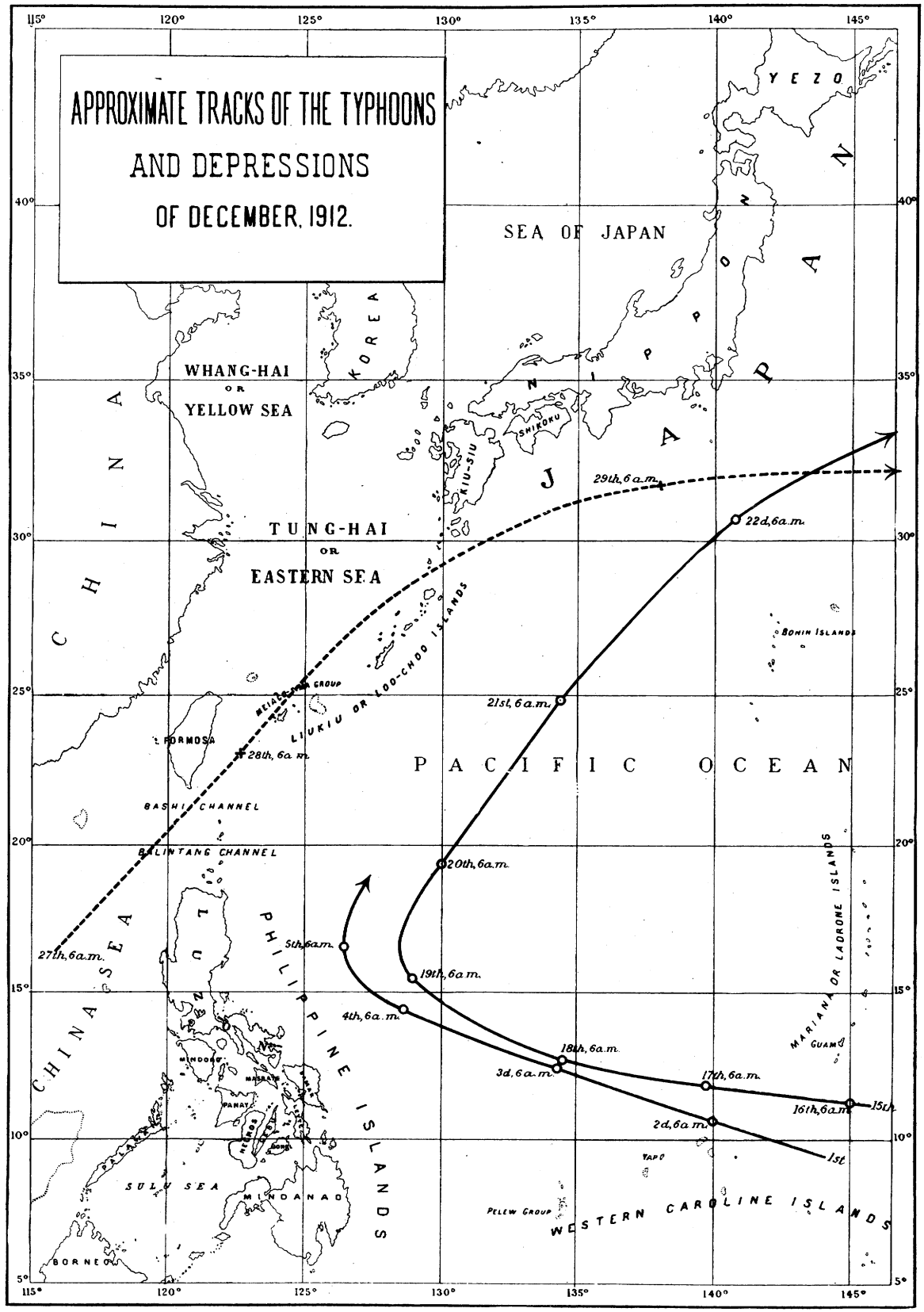
Besides one depression of slight importance which moved from the China Sea to the NE, two typhoons formed in the Western Carolines or between the Carolines and the Marianas, both of which recurved before they reached the Philippines to the N and NE. Their tracks are shown in Plate XXIII.

Typhoon of December 1 to 5.—From the observations made in Yap and Guam on the 1st, 2d, and 3d, and given below, it will be seen that there was question of a well developed typhoon which appeared in the early morning of the 1st to the S of Guam and E of Yap, not far from 144° longitude E and 9° latitude N, and which, moving to the WNW, passed at its least distance from Yap to the north at about midday of the 2d.

METEOROLOGICAL OBSERVATIONS FOR DECEMBER 1 to 3, 1912.

	Sumay, Guam, Ladrone Islands.					Yap, Western Carolines.				
Date and hour.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.
		Direction.	Force.				Direction.	Force.		
December 1:	*mm.*		*0-12.*		*mm.*	*mm.*		*0-12.*		*mm.*
6 a. m	757.27	ENE	6	c, q		757.49	NNE	2	o	
2 p. m	56 30	ENE	7	o, q	76.2	56.14	NNE	2	o, d	15.5
December 2:										
6 a. m	58.40	ESE	8	o, q		54.78	W	2	o, r	
7 a. m						53.91	WSW	3	o, r	
8 a. m						54.28	WSW	4	o, r	
9 a. m						54.13	WSW	4	o, r	
10 a. m						52.18	WSW	5	o, q, r	
11 a. m						51.31	WSW	6	o, q, r	
11.30 a. m						50.52	WSW	8	o, q, r	
Noon						49.85	WSW	6	o, q	
12.15 p. m						49.66	W	5	o, d, q	
12.30 p. m						49.91	SW	5	o, d, q	
1 p. m						50.61	SW	4	o	
2 p. m	57.60	ENE	5	o, q		50.76	SW	3	o	
3 p. m						51.73	WSW	2	o	
4 p. m						52.81	SW	3	o, r	
5 p. m						53.72	SSW	2	o	
10 p. m					24.1	56.90	Calm		c	49
December 3:										
6 a. m	59.47	E	2	o		56.83	SE	1	c	
2 p. m	57.65	E	4	c		56.51	SE	1	o	7.9

Plate XXIII.


APPROXIMATE TRACKS OF THE TYPHOONS
AND DEPRESSIONS
OF DECEMBER, 1912.
SEA OF JAPAN
YEZO
JAPAN
KOREA
WHANG-HAI
OR
YELLOW SEA
CHINA
KIU-SIU
SHIKOKU
TUNG-HAI
OR
EASTERN SEA
LIUKIU OR LOO-CHOO ISLANDS
BONIN ISLANDS
PACIFIC OCEAN
FORMOSA
BASHI CHANNEL
BALINTANG CHANNEL
CHINA SEA
PHILIPPINE ISLANDS
MARIANA OR LADRONE ISLANDS
GUAM
MINDORO
MASBATE
PANAY
NEGROS
CEBU
BOHOL
SULU SEA
MINDANAO
BORNEO
YAP
PELEW GROUP
WESTERN CAROLINE ISLANDS
27th, 6a.m.
28th, 6a.m.
29th, 6a.m.
5th, 6a.m.
4th, 6a.m.
3d, 6a.m.
2d, 6a.m.
1st
19th, 6a.m.
20th, 6a.m.
21st, 6a.m.
22d, 6a.m.
18th, 6a.m.
17th, 6a.m.
16th, 6a.m.
15th
115°
120°
125°
130°
135°
140°
145°
40°
35°
30°
25°
20°
15°
10°
5°

The Observatory announced this typhoon in the ordinary weather report in these terms:

December 2, 11.20 a. m.: A new typhoon has appeared to the NE of Yap: its center is situated early this morning in about 140° longitude E and 11° latitude N, moving apparently to W or W by N.

A special report was given out a short time later.

December 2, 12 noon: According to further observations received from Yap this morning, the new typhoon lies at present in about 139° longitude E and 11° latitude N, moving W or W by N.

To the observatories of Tokio, Zikawei, Hongkong, and Phulien the following cables were sent the same day:

December 2, 8.25 a. m.: Typhoon N of Yap, moving W or WNW.
December 2, 5.55 p. m.: Typhoon NW of Yap, moving W or WNW.

During the whole of the 3d and the morning of the 4th the direction of this typhoon made it dangerous for the Philippines, especially Luzon, as was announced in the weather reports of those days. Happily, however, the track curved more and more to the N from the afternoon of the 4th till finally it appeared to fill up entirely to the E of the extreme north of Luzon during the night of December 5 to 6. This news was communicated to the public in a warning given out during the morning of the 5th and in the weather report of the 6th:

December 5, 8 a. m.: The typhoon has been changing its direction since yesterday afternoon, its center being situated early this morning in about 16° or 17° latitude N and between 126° and 125° longitude E, moving at present to NW or NNW. It will probably recurve northeastward later.
December 6, 11.30 a. m.: The typhoon has probably filled up to the northeast of Luzon.

To the observatories of the Far East the following cables were sent:

December 3, 10.25 a. m.: Typhoon N of the Pelew Islands, moving W or WNW.
December 3, 3 p. m.: Typhoon east of the northern Visayas, or southeastern Luzon, moving W or WNW.
December 4, 8.35 a. m.: Typhoon E of southern Luzon, moving WNW.
December 5, 8.50 a. m.: Typhoon E of Luzon, less than 300 miles distant, moving NW or NNW.
December 5, 4.20 p. m.: Typhoon E of northern Luzon, less than 300 miles distant, moving NNW or N.
December 6, 10.30 a. m.: Typhoon NE of Luzon, filling up.

Typhoon of December 15 to 22, 1912.—Early in the morning of the 16th the observations from Yap and Guam gave indications of the existence of another well developed typhoon. At 6 a. m. of that day the center could be located to the S of Guam in 145° longitude E and between 11° and 12° latitude N. During the 16th and 17th and early hours of the 18th the typhoon was moving much inclined to the W in the direction of the Philippines. This the Observatory announced in the ordinary weather reports of the 17th and 18th:

December 17, 11.50 a. m.: A typhoon which appeared yesterday south of Guam has been moving apparently to W or WNW, its center being situated early this morning to the northeast of Yap.
December 18, 11.25 a. m.: The typhoon is situated early this morning to the northwest of Yap, in about 135° longitude E and 12° 30′ latitude N, moving at present W towards the Philippines.

Below are the observations made in Guam on the 15th to 17th, and in Yap on the 16th to 18th of December. From them it will be seen that the typhoon was already forming on the 15th, and that it was well developed in the early morning of the 16th to the south of Guam, and that in the morning of the 17th it passed by the north of Yap, moving in the direction W by N.

METEOROLOGICAL OBSERVATIONS FOR DECEMBER 15 TO 18, 1912.

Sumay, Guam, Ladrone Islands.						Yap, Western Carolines.					
Date and hour.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.	Date and hour.	Pressure.	Wind.		Weather.	Rain, 24 hours beginning 6 a. m.
		Direction.	Force.					Direction.	Force.		
	mm.		*0–12.*		*mm.*		*mm.*		*0–12.*		*mm.*
December 15:						December 16:					
6 a. m.	758.62	ENE	4	o		6 a. m.	757.33	N	2	c	
2 p. m.	56.95	ENE	6–7	o, q		2 p. m.	55.95	N	2	o	
December 16:						December 17:					
6 a. m.	53.70	ENE	8	o, q		4 a. m.	54.25	NNW	2	c	
8 a. m.	53.77	ENE	8	o, q, r		6 a. m.	54.59	WNW	1	o	
10 a. m.	54.07	ENE	9	o, q, r		8 a. m.	56.03	W	1	o	
Noon.	53.27	EbyN	9	o, q, r		10 a. m.	55.98	WSW	1	o	
2 p. m.	51.90	EbyN	9–10	o, q, r		Noon.	55.33	WSW	2	o	
4 p. m.	53.30	EbyS	8	o, q, r		2 p. m.	54.43	SSW	2	o	
6 p. m.	55.10	EbyS	7–8	o, q, r	76.2	4 p. m.	54.63	SSW	2	o	
December 17:						December 18:					
6 a. m.	57.75	SE	4	o, q	5.1	6 a. m.	57.17	ESE	2	c	2.5

Early on the morning of the 19th it was recognized that the typhoon had curved to the N and that it tended to recurve to the NE as was indicated in the following warning published at 8 a. m. of that day:

December 19, 8 a. m.: The typhoon has inclined northward since yesterday, its center being situated this morning in about 129° longitude E and 15° or 16° latitude N, moving NW. It will probably incline more to the north and recurve later northeastward; hence it is not dangerous for the Philippines.

The typhoon did actually recurve as may be seen from the following weather notes for the 20th and 22d:

December 20, 11.30 a. m.: The typhoon has recurved northeastward to the east of northern Luzon.
December 22, 11.50 a. m.: The typhoon of last week seems to be situated early this morning to the north of the Bonin Islands, moving northeastward.

Relative to this typhoon the following cables were sent to the meteorological observatories of the Far East:

December 16, 9.20 a. m.: Typhoon S of Guam, direction unknown.
December 17, 9 a. m.: Typhoon N of Yap, moving W or WNW.
December 18, 9.45 a. m.: Typhoon N of the Pelew Islands, moving W.
December 19, 8.50 a. m.: Typhoon E of Luzon, more than 300 miles distant, moving NW.
December 19, 4.25 p. m.: Typhoon east of Luzon, more than 300 miles distant, recurving northeastward.

Depression of December 27 to 29, 1912.—In describing the weather maps of 6 a. m. of the 27th and 28th the Observatory said:

December 27: Pressure is probably low over the China Sea to the W of Luzon.
December 28: Pressure is probably low near or over the Balintang channel.

According to data received later, it appears probable that a depression of little importance was to the W of Luzon on the 27th, and that it moved at first to the NE, crossed the Bashi channel in the early morning of the 28th, then passed close to the Liukiu Islands, and finally entered the Pacific on the 30th after having skirted the south coast of Japan in the direction ENE on the 29th.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes es ligeramente menor que la de Diciembre del año pasado para las estaciones al sur de Manila, y ligeramente mayor al norte de Manila. Las presiones más bajas ocurrieron en todas partes los días 4 y 5 por efecto de un tifón en el Pacífico al E de Luzón.

La temperatura media mensual es en unas estaciones casi idéntica a la de Diciembre, 1911, y en otras ligeramente menor. Las temperaturas extremas para Manila fueron 32.4° C. y 18.2° C., habiendo sido registrada la primera los días 13 y 27, y la segunda el día 8.

Precipitación acuosa.—Salvas unas pocas excepciones, la cantidad de lluvia caída este mes en nuestras estaciones es inferior a la normal de Diciembre. En cambio, si se compara dicha cantidad con la del año próximo pasado, hallamos que a excepción de las estaciones de Mindanao y del norte de Luzón, casi todas las demás nos dan diferencias positivas. En los pluviómetros de Manila solamente se recogieron en todo el mes 13.9 mm. de agua, cantidad mayor que la de Diciembre, 1911, en 5.9 mm., pero menor que la normal de este mes en 46.5 mm.

DEPRESIONES Y TIFONES.

Además de una depresión de poca importancia que se movió al NE desde el Mar de China, se formaron este mes dos tifones en las Carolinas Occidentales o entre las Carolinas y las Marianas, los cuales recurvaron al N y NE antes de llegar a Filipinas. Véanse sus trayectorias en la Lámina XXIII.

Tifón de 1 a 5 de Diciembre, 1912.—En el texto inglés verán nuestros lectores reunidas en una tabla las observaciones hechas en Yap y Guam los días 1, 2 y 3. Por ellas se ve que se trataba de un tifón bien desarrollado que apareció la madrugada del día 1 hacia el S de Guam y E de Yap, no lejos de 144° long. E y 9° lat. N, y que moviéndose al WNW pasó por el norte y a la menor distancia de Yap a eso de las 12 mediodía del 2.

El Observatorio de Manila anunció este tifón en la nota ordinaria del tiempo del día 2 en estos términos:

Día 2, 11.20 a. m.: Un nuevo tifón ha aparecido al NE de Yap: su centro se hallaba esta madrugada en los alrededores del meridiano 140° E y del paralelo 11° N, moviéndose aparentemente al W o W¼NW.

En una nota extraordinaria dada poco después se decía lo siguiente:

Día 2, 12 mediodía: Según las últimas observaciones recibidas de Yap esta mañana, el tifón se halla actualmente en los alrededores del meridiano 139° E y del paralelo 11° N, moviéndose al W o W¼NW.

A los Observatorios de Tokio, Zikawei, Taihoku, Hongkong y Phulien se trasmitieron el mismo día estos cablegramas:

Día 2, 8.25 a. m.: Tifón al N de Yap, moviéndose al W o WNW.
Día 2, 5.55 p. m.: Tifón al NW de Yap, moviéndose al W o WNW.

Durante todo el día 3 y aún la mañana del 4 era la dirección de este baguio peligrosa para la Isla de Luzón, según lo indicó el Observatorio en las notas del tiempo de aquellos dos días. Afortunadamente, sin embargo, se inclinó la trayectoria más y más al N desde la tarde del día 4, y por último parece que se deshizo enteramente al E de la extremidad norte de Luzón durante la noche del 5 al 6. Así lo anunció el Observatorio en un aviso de tifón dado la mañana del 5 y en la nota ordinaria del tiempo del día 6.

Día 5, 8 a. m.: El tifón ha cambiado de dirección desde ayer tarde, hallándose su centro esta madrugada al E de Luzón, en los alrededores del paralelo 16° ó 17° N y entre los meridianos 126° y 125° E, moviéndose actualmente al NW o NNW. Es probable que recurve más tarde al NE.
Día 6, 11.30 a. m.: El tifón se ha rellenado probablemente al NE de Luzón.

A los Observatorios arriba indicados se enviaron estos cablegramas:

Día 3, 10.25 a. m.: Tifón al N de las islas Pelew (Palaos), moviéndose al W o WNW.
Día 3, 3 p. m.: Tifón al E de las Visayas septentrionales o de la parte sudeste de Luzón, moviéndose al W or WNW.
Día 4, 8.35 a. m.: Tifón al E de la parte sur de Luzón, moviéndose al WNW.
Día 5, 8.50 a. m.: Tifón al E de Luzón, distancia menor de 300 millas, moviéndose al NW o NNW.
Día 5, 4.20 p. m.: Tifón al E de la parte norte de Luzón, distancia menor de 300 millas, moviéndose al NNW o N.
Día 6, 10.30 a. m.: Tifón al NE de Luzón, deshaciéndose.

Tifón de 15 a 22 de Diciembre, 1912.—De nuevo las observaciones de Guam y Yap indicaron la existencia de otro tifón bien desarrollado en las primeras horas del día 16. Su centro se pudo situar a las 6 a. m. de dicho día al sur de Guam, en los alrededores de 145° long. E y entre 11° y 12° lat. N. Durante los días 16, 17 y primeras horas del 18 se movió el tifón muy inclinado al W en dirección a Filipinas. Así lo anunció el Observatorio de Manila en las notas ordinarias del tiempo de los días 17 y 18:

Día 17, 11.50 a. m.: Un tifón que apareció ayer tarde al S de Guam ha ido moviéndose aparentemente al W o WNW, hallándose su centro esta madrugada al NE de Yap.
Día 18, 11.25 a. m.: El tifón se halla esta madrugada al NW de Yap, en los alrededores del meridiano 135° E y del paralelo 12° 30′ N, moviéndose al presente hacia el W en dirección a Filipinas.

En el texto inglés publicamos reunidas en una tabla las observaciones hechas en Guam del 15 al 17 y en Yap del 16 al 18. Según ellas, el tifón se estuvo ya formando desde el día 15, se hallaba ya bien desarrollado al sur de Guam la madrugada del 16, y pasó por el norte de Yap la mañana del 17, moviéndose al W$\frac{1}{4}$NW.

Desde las primeras horas de la mañana del 19 se pudo conocer claramente que el tifón se había inclinado al N y tendía a recurvar al NE según se indicó en este aviso de tifón dado al público a las 8 a. m. de dicho día:

El tifón se ha inclinado al N desde ayer, hallándose su centro esta mañana en los alrededores del meridiano 129° E y de los paralelos 15° ó 16° N, moviéndose al NW. Se inclinará probablemente más al N y recurvará más tarde al NE: no es, por consiguiente, peligroso para Filipinas.

La recurva del tifón al NE se confirmó en las siguientes notas del tiempo correspondientes a los días 20 y 22:

Día 20, 11.30 a. m.: El tifón ha recurvado hacia el NE al E del N de Luzón.
Día 22, 11.50 a. m.: El tifón de los días anteriores parece hallarse esta madrugada al N de Bonín, moviéndose hacia el NE.

A los Centros Meteorológicos del Extremo Oriente se enviaron estos cablegramas desde que apareció el tifón al sur de Guam el día 16 hasta que recurvó al NE el día 19:

Día 16, 9.20 a. m.: Tifón al S de Guam, dirección desconocida.
Día 17, 9 a. m.: Tifón al N de Yap, moviéndose al W o WNW.
Día 18, 9.45 a. m.: Tifón al N de las islas Pelew (Palaos), moviéndose al W.
Día 19, 8.50 a. m.: Tifón al E de Luzón, distancia mayor de 300 millas, moviéndose al NW.
Día 19, 4.25 p. m.: Tifón al E de Luzón, distancia mayor de 300 millas, recurvando al nordeste.

Depresión de 27 a 29 de Diciembre, 1912.—El Observatorio de Manila decía lo siguiente al describir los mapas del tiempo de 6 a. m. de los días 27 y 28:

Día 27: La presión atmosférica está probablemente baja en el Mar de China al W de Luzón.
Día 28: La presión atmosférica está baja en el, o cerca del, canal de Balintang.

A juzgar por algunos datos recibidos posteriormente, parece bastante probable que una depresión de poca importancia se hallaba el 27 al W del norte de Luzón, la cual, moviéndose primero al NE, atravesó el canal de Bashi en las primeras horas del 28, pasó luego por los alrededores de las islas Liukiu, y se internó por fin el día 30 en el Pacífico después de haber pasado cerca de la costa meridional del Japón el 29 en dirección al ENE.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[a]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, −1.72 mm.]

Day.	Air temperature.[b]				Underground temperature.						Relative humidity (mean).	Vapor pressure (mean).	Evaporation.[b]	
	Pressure (mean).	Mean.	Maximum.	Minimum.	0.25 meter.		0.50 meter.		1.50 meters.	2.50 meters.			Free exposure (total).	Shelter (total).
					8 a. m.	2 p. m.	8 a. m.	2 p. m.	8 a. m.	8 a. m.				
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	*Per ct.*	*mm.*	*mm.*	*mm.*
1	760.54	26.1	31.9	22.9	27.3	28.7	27.9	28.1	29	28.9	85	21.1	2.9	2.1
2	60.98	25.2	30.6	21.8	27.3	28.5	28	28.4	28.7	28.8	87.3	20.7	1.9	1.5
3	59.58	24.7	29.9	20.5	26.9	28.2	28.2	28.4	28.7	28.7	85.3	19.6	2.3	1.7
4	58.16	25.3	29.2	21.5	27	28.2	28.2	28.3	28.7	28.8	87.8	20.9	2.1	1.4
5	57.91	25.8	30	22.7	27.2	28.3	28.1	28.5	28.7	28.8	86.8	21.3	2.4	1.7
6	59.66	25.4	30.7	22.1	27.3	28.4	28.2	28.5	28.7	28.8	83.6	20	2.9	1.9
7	60.94	24.1	30.4	20.6	27.3	28.3	28.4	28.5	28.7	28.7	80.6	17.9	3.9	2.8
8	61.29	23.3	29.9	18.2	27	27.6	28.2	28.3	28.6	28.5	74.5	15.4	4.3	3
9	61.71	24.1	30	19.7	26.1	26.7	27.8	27.9	28.5	28.6	78.3	17.5	3.6	3
10	61.88	24.6	29.5	22.2	26.5	27.2	27.8	27.9	28.6	28.6	75.4	17.2	3.8	3.1
11	61.80	24.1	29.2	21.5	26.5	27.2	27.8	27.7	28.5	28.6	84	18.7	1.2	1.3
12	61.66	25.4	32.2	21	26.5	28	27.7	27.8	28.5	28.6	77.8	18.3	4.3	3
13	61.76	25.7	32.4	22	26.7	28.1	27.7	28	28.5	28.7	77.8	18.7	4	2.9
14	61.92	25.5	31.5	21.2	26.8	28.2	27.9	28.1	28.6	28.7	80.6	19.3	3	2.3
15	61.24	25	30.6	21.5	27.1	28.1	28.1	28.2	28.5	28.5	83.8	19.7	2	1.8
16	61.07	24.7	31.9	19.7	26.6	28.1	27.9	28.1	28.4	28.4	76.9	17.3	3.4	2.9
17	60.76	23.9	30.5	19.5	26.6	27.5	27.9	28	28.4	28.5	82.5	18	1.9	1.8
18	59.24	23.7	30	18.9	26.2	27.3	27.8	27.8	28.4	28.4	82.3	17.8	2.3	1.8
19	59.10	24	29.7	19.8	26	27.5	27.6	27.8	28.4	28.5	83.7	18.4	2.5	1.9
20	59.39	24.8	30.6	20.4	26.5	27.4	27.7	27.9	28.3	28.3	85.8	19.9	2.4	1.9
21	59.55	25.6	30.9	22.2	26.8	27.4	27.8	28	28.4	28.4	81.9	19.8	2.8	2.3
22	60.35	24.2	30.4	20.2	26.8	27.7	27.8	28	28.3	28.4	81.5	18.1	2.2	1.9
23	61.53	23.8	30.2	19.3	26.4	27.4	27.8	27.8	28.3	28.4	80.5	17.5	2.8	2.3
24	61.33	24.1	29.8	20	26.2	27.5	27.6	27.7	28.3	28.3	81.4	18	2.4	2.2
25	61.89	24.8	30.7	21.1	26.5	27.5	27.7	27.8	28.3	28.3	79	18.1	3.3	2.9
26	61.63	24.4	29.9	21.8	26.6	27.5	27.6	27.7	28.3	28.3	87.2	19.7	1	1.3
27	61.03	25.6	32.4	21.1	26.5	27.9	27.6	27.8	28.3	28.4	79.2	18.9	4.2	3
28	61.34	25.8	31.7	22.5	26.8	28.5	27.8	27.8	28.3	28.3	82.1	20.1	2.9	2.3
29	61.89	24.9	30.2	21.4	26.9	28.1	27.8	28.1	28.2	28.3	85.6	19.8	2.3	2
30	62.08	24.6	29.8	21.9	26.7	28.2	28.1	28.1	28.3	28.3	87.1	20	1.2	1.5
31	61.70	25	31.9	20.9	26.5	27.8	27.8	28.1	28.2	28.4	83.8	19.5	2.2	2.1
Mean	760.80	24.8	30.6	21	26.7	27.8	27.9	28	28.5	28.5	82.2	18.9	2.7	2.2
Total													84.4	67.6
Departure from normal	+0.34	−0.4	+0.7	−0.2							+1.1	−0.3		

Day.	Wind.				Clouds.			Sunshine.	Rain, 24 hours beginning midnight.	Miscellaneous.
	Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Amount (mean).	Prevailing form and its direction. Upper.	Lower.			
		Km.	*Km.*		*0–10.*			*h.* *m.*	*mm.*	
1	SE	154.5	17.5	SE	6.6	A.-Cu. SE	Cu.	6 10		
2	WSW, WNW	49	11.5	WNW	5.8	Ci.	Cu. E	5 25		
3	W	84.5	13.5	W	7.7	Ci. E	Cu. E	5 30		◠° p.
4	WSW	139	15	WNW	9.2	Ci.-S.	Cu. NbyW	3 20		
5	WSW	103	13	SW	8.8	Ci.-S.	Cu. NW	2 20		Ω ≡ a.
6	NNE	114	14	WNW	6.4	Ci.	Cu. E	6 20		
7	W, S	98.5	13	W	3.1	Ci., Ci.-Cu.	Cu. ENE	7 15		
8	NNE	221.5	30	NNE	4.5	A.-Cu. E	Cu. E	6 50		
9	N by E	243.5	19	N by E	8.3	Ci.	Cu.-N., N.-cf. E	3 30		
10	N	228	26	NE	9.1	A.-Cu.	N.-cf., Cu. E	1 55		d° a.
11	NNE	157	20	NNE	9.4	Ci.-S.	N.-cf., Cu.-N. E	0 30	2.7	●° p.
12	NNE	145.5	15	ESE	4.9	Ci.	Cu. E	8 00		
13	NNE	143.5	16	E	6.8	Ci.	Cu. E	6 35		
14	NNE	112.5	13	NNE	4	Ci.	Cu. E	7 40		
15	NE by E	79.5	12.5	W	6.2	Ci.	Cu. E	4 30	.3	d° p.
16	NE	108	13	NE	4.3	Ci.	Cu. E	6 40		
17	W quad.	79.5	11.5	WNW	4.9	Ci.	Cu. E	4 50	.4	d° p.
18	Variable	63.5	9	NW	7	Ci.	Cu., N.-cf. E	3 20		
19	WNW	70	18	WNW	6.3	Ci.	Cu. E	6 05		
20	WSW	58.5	11	WSW	4.2	Ci.	Cu. WNW, NE	5 45		
21	W	78	12	WNW	3.8	Ci.	Cu. E	6 10		
22	Variable	59	7	NNE	6.6	A.-Cu.	Cu., N.-cf. E	4 00		d° a. p.
23	WNW	61	12	W by N	5.8	Ci.	Cu. E	5 35		
24	NNE	143.5	23	N	9.2	Ci.	Cu.-N., N.-cf. E	1 50	.1	┬° ●° p.
25	NNE	204.5	23.5	NNE	8.7	A.-Cu.	Cu. ENE	3 05	.5	●° a. d° p.
26	NNE	77.5	15	E	9.1	A.-Cu.	Cu. ENE	2 10	7.4	● a. ●° p.
27	E	154	22	E by S	4.8	Ci.	Cu. ESE	7 25		
28	WNW	143.5	17.5	N	3.6	Ci.	Cu. E	7 40		
29	NNE, SW	101	13	SSW	6.6	A.-Cu.	Cu.-N. E	4 25	.3	●° p.
30	E quad.	106	15	NW	6.5	Ci.-S.	Cu. E	4 15	1.3	d° a. ●° p.
31	NNE	129	13.5	ENE	5.9	A.-Cu.	Cu. E	5 45	.9	d° a. ● p.
Mean		119.7	15.6		6.4			5 00		
Total								154 50	13.9	
Departure from normal		−34.9			+0.3			−3 57	−46.5	

[a] All the mean values given in this table are deduced from hourly observations.
[b] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[a]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 26.2 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.70	25.2	29.7	22.5	89.3	SSW	0.3	8.7	Ci.-S.	Cu.		d² a.
2	60.02	25.7	31.3	21.7	86.7	Variable	.8	3.5	Ci.	Cu. N		
3	58.50	25.6	31.2	22.1	86.5	NNW, NW	.5	4.2	Ci.-S.	Cu., Fr.-N. N		
4	57.86	26.1	31.7	22.2	84.7	SSE, S	.5	6.5	Ci.-S.	Cu. SSW		∪² a.
5	58.24	25.8	32.6	21.4	83.5	SW	1	1.8	Ci.	Fr.-Cu. W		
6	59.14	26.2	32.3	20.6	82.5	SSE, SE	.5	4.2	Ci.	Cu.-N. E		⊤° p.
7	59.62	26.4	32.9	22.4	83	SE	.7	3.8	Ci.	Cu., Fr.-Cu. E		
8	59.63	25.9	32.6	22	84.2	NNE, NE	.8	2.3	Ci.	Cu. E		
9	59.52	25.1	31.4	21.9	87.5	NE	.7	5.2	Ci.-S.	Cu. E	4.1	◑ p.
10	59.42	25.8	31.2	22.6	85.7	NNE, NE	.5	5.8	Ci.-S.	Cu. E	2	●° ⊤° p.
11	59.43	26.6	33.3	22.8	74.7	E quad.	1.3	4.2	Ci.	Cu. E		
12	59.63	26.9	33.7	23.1	77.2	SE, E	.7	4.3	Ci.	Cu. E, SE		
13	59.92	26.8	33.7	22.8	78.3	SE	.8	2.8	Ci.	Cu. E		
14	60.16	25.8	32	23.2	88.3	E	.7	6.5	Ci.-S.	Cu. SE. NE	3.3	●° a. d² p.
15	59.86	26.4	32.4	22.4	82.7	SE, S	.8	3.5	Ci.	Cu. SE		
16	59.46	25.7	31.1	21	80	E quad.	1.3	4.8	Ci., Ci.-S.	Cu. SE		
17	59.38	26.6	32.3	21.6	77.8	E, SE	.7	4	Ci.	Cu. SE, E		d° p.
18	58.74	26.1	32.4	21.5	77.7	NE	.3	6.3	Ci.-S.	Cu. E		∪² ⊍² p.
19	58.73	24.4	30.8	19	81.2	SE	.5	2.8	Ci.	Cu. SSE		
20	58.65	25	31.4	20.8	85.3	S, SE	.5	3	Ci.	Cu. E quad.		
21	58.39	25.9	31.4	22.7	90.3	NNE	.2	6.2	Ci.-S.	Cu. NE	12.4	● a. d° p.
22	58.79	26.4	31.7	24.1	87	NE	1	5.8	Ci.-S., Ci.	Cu. E	2.3	●° p.
23	59.84	26	30	21.7	84.2	E quad.	1.2	8	Ci.-S.	Cu. E, SE	10.4	● p.
24	59.17	25.6	31.6	20.2	82.3	NE quad.	.8	3.8	Ci.	Cu. E quad.		
25	59.62	24.9	29.4	21.9	84.3	E	.8	7.3	Ci.-S.	Cu. SE	5.8	d° a. p. ● p.
26	59.65	25.7	31.8	21.7	78.5	E quad.	.8	4.7	Ci.	Cu. E, SE		
27	59.47	26.3	31.4	22.4	81	SE	1	1.5	Ci.	Fr.-Cu. SE		
28	59.90	26.5	32.8	22.2	80	Variable	.5	1.7	Ci.	Cu. SE		
29	60.52	25.4	30.7	21.9	82.7	SE	.7	3.8	Ci.	Cu. SSE		d° a.
30	60.42	25.3	31.3	21.4	79.5	E, SE	.8	3.3	Ci.	Cu. SE		
31	59.38	26.6	32.3	22.6	82.7	NE	1.3	5.7	Ci.	Cu. E quad.		d° a.
Mean	759.41	25.9	31.8	21.9	82.9		.7	4.5				
Total											40.3	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P.ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.78	25.8	30.1	23.1	84.2	Variable	0.5	4.2	Ci.	Cu.		d a.
2	60.13	25.4	30	22.3	87	N quad.	1	3.3	Ci.-S.	Cu.-N. ENE		Ω a. d p.
3	58	26.3	30.2	23.2	80.7	W quad.	1.2	2.7	Ci.-S.	Cu.-N. NNW		◠ a.
4	57.40	27.2	29.9	25.1	73.2	WSW	1.7	3	Ci.-S.	Cu.-N. WSW		
5	58.09	26.2	32.5	22	75.3	SW, WSW	1	0	Ci.	Cu. WSW		Ω a.
6	59.16	26.1	30.7	21.4	80.3	Variable	.8	.3	Ci.	Cu.		Ω a.
7	59.72	26.9	29.5	23.4	77.2	NE quad.	1.5	3.3	Ci.	Cu.-N. NE		
8	59.47	26	28.6	23.3	78.7	N quad.	1.2	4.5	A.-Cu.	Cu.-N.	0.5	
9	59.44	25.5	29.1	23	89.8	E	.8	8.5	Ci.-S.	Cu.-N. ENE	23.1	◠ ● a. p.
10	59.32	25.6	29.1	24.2	90.2	ENE	1.3	9.5	Ci.-S.	Cu.-N.	16	● a. p.
11	59.71	26.4	30.5	23.8	82.8	E quad.	2.3	4.8	A.-Cu.	Cu.-N. E	9.9	● a. p.
12	59.77	25.9	29	22.9	86.7	NE quad.	1.5	6.3	A.-Cu.	N. E	9.4	d² a. ● a. p.
13	59.96	25.9	30.2	23.5	90.5	E quad.	1.5	5.3	Ci.-S., Ci.	Cu.-N. E	7.6	● a. p.
14	60.14	25.6	27.5	23.5	91.2	E quad.	.8	8.8	Ci.	Cu.-N. ESE	35.8	● a. p.
15	59.92	26.7	29.9	23.6	84.7	ENE	1.7	6	Ci.	Cu.-N. ESE, E	3.3	d a.
16	59.72	25.6	27.4	24	88.5	ENE	1.7	9.7	A.-Cu., Ci.	Cu.-N. E	25.1	● a. p.
17	59.46	25.4	30	22.3	87.5	NE quad.	1.2	7.2	Ci.	Cu.-N. E	4.6	● d p.
18	58.59	24.7	30.1	21.4	82.2	Variable	.5	4	Ci.	Cu.		d a. Ω ∪° p.
19	58.47	24.6	30	20.5	81	SW quad.	.8	0	Ci.	Cu.		Ω a.
20	58.55	25.5	30.2	20.8	82.5	NNW	.5	2.5	A.-Cu. ESE	Cu.		Ω a. ⊍ p.
21	58.34	26.2	30	24	86.7	Variable	.7	5.2	A.-Cu.	Cu.-N. NE	3.8	Ω a. ●° ⊍ p.
22	58.98	26.6	30.5	24	86.2	ENE	.7	5.2	A.-Cu. S	Cu.-N.	1.8	◠ d² a. ↙° ⊍ p.
23	60.03	24.6	28.1	22.9	91.5	NNW, SSW	1	9.8	Ci.-S.	N. NE	36.8	●° a. ● p.
24	59.32	26.2	30	22.8	83.5	ENE	1.2	6.5	Variable	Cu.-N. NE	21	● a.
25	59.62	24.4	27.1	22.7	93.3	ENE	1.5	9.5	Ci.-S.	N. NE	26.7	↙ a. ● a. p.
26	59.78	26.6	30.1	24	82.5	ENE	1.7	6.7	Ci.-S.	Cu.-N. ENE	9.1	●° p.
27	59.74	26.6	30.8	23.3	83.5	E quad.	.7	4.3	Ci.	Cu.-N. ENE	3.3	● p.
28	60.10	26.3	31	23.2	85	ENE	.5	4	Ci.	Cu.-N. SSE		
29	60.58	25.8	29.6	23.4	85	Variable	1.3	5.2	Ci.	Cu.-N.	4.4	Ω ● a. d° p.
30	60.36	26.9	30	24	79.2	E quad.	1.7	2.5	A.-Cu., Ci.	Cu.-N.	30.2	● a. p.
31	59.49	26.3	29.9	23.5	89.3	ENE	1.8	6.8	Variable	Cu.-N. E		●² d° a.
Mean	759.43	25.9	29.7	23.1	84.5		1.2	5.1				
Total											272.4	

[a] All the mean values given in these tables are deduced from six daily observations.

Meteorological data for first and second class stations—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 9 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.90	26.2	30	22	82.5	Variable	1	5.8	Ci.-S.	N.-cf. NE	-------	●² ☾ ☇ a. ☐ a. p.
2	60.16	27	30.6	23.5	76.5	NE	.7	4.7	Ci.-S. ESE	Cu. NE	-------	☊ ◯ a. ☇ p.
3	58.51	27	30.9	23.9	74.7	Variable	.7	5.3	Ci.-S.	Cu. NNE	-------	☊ a.
4	57.91	27	30.5	24.2	71.2	SW quad.	.8	6.7	Ci.-S.	Cu. W, WSW	-------	◯ a. p.
5	58.40	27	30.1	24.2	73.2	SW quad.	1.3	4	Ci.-S.	Cu. WSW	-------	
6	59.21	27.2	31	23.5	73.7	NE, NW	.7	2.7	Ci.	Cu. NE	-------	☊ a. ☇° p.
7	59.65	26.9	29.8	24.4	74.8	NE, N	1.2	3.2	Ci.	Cu. NE	2	☊ a. ☐ ● p.
8	59.46	26.7	30.8	23.9	63.5	N	1.2	2.8	Ci.	Cu. NE	-------	☊ a.
9	59.70	26.8	29.3	23.9	74.8	NE	1.2	6.8	Ci.-S.	S.-Cu. NNE, NE	11.2	☊ a. d p.
10	59.61	25.9	28.5	23.5	85.2	NE quad.	1	8.5	Ci.-S.	Cu.-N. NNE	5.9	● a. ☐ d p.
11	59.84	26.9	29	24	77	NE quad.	1.7	6	Ci.-S., Ci.	Cu.-N. NE	-------	●° d a.
12	59.95	27.4	30.4	25	71.8	NE	1	3	Ci.	S.-Cu. NE	19.3	☊ a.
13	60.28	26.5	30	23.5	83	NE	1.2	5	Ci.	Cu.-N. NE	15.8	d a. ● a. p.
14	60.45	26	29	23.6	85.5	NE	1.2	7.5	Ci.-S.	Cu.-N. NE	3.3	☊ a. ●° d p.
15	60.17	27.1	30	24	76.7	NE	1	3.2	Ci.	Cu. NE	-------	d a.
16	59.75	26.9	29.6	23.5	74.7	NE	1	5.5	Ci.	Cu. NE	-------	d p.
17	59.58	26.7	30.5	23.5	75.5	NE	1	5	Ci.	Cu. NE	.3	☊ a. d p.
18	58.81	26.9	30.6	23.9	70.8	NE quad.	1	3.8	Ci.-S.	Cu. NE	-------	
19	58.63	26.5	29.7	22.1	73.2	Variable	.8	5.2	Ci.	Cu. N quad.	-------	☊ a.
20	58.63	27	31	23.3	78.3	Variable	.5	4.8	Ci.	Cu. NNE	12.7	☊ ☐ a.
21	58.47	27.5	30	24.7	78.8	NE	1	4.3	Ci.	Cu. NE	-------	● a. ☋ p.
22	58.76	27.2	30	24.9	77.5	NE	1	3	Ci.	Cu. NE	12.2	☊ a.
23	60.01	26.4	28	23.6	79.8	NE quad.	1.2	8	Ci.-S., A.-Cu.	Cu.-N. NE	17.5	● a. p p.
24	59.34	26.8	30	23.9	78	NE, N	.8	5.8	A.-Cu. SE	Cu. NNE	-------	p a. ☋ p.
25	59.86	25.9	28.6	24.2	77.5	NE	1.2	7.3	A.-Cu.	Cu.-N. ENE	2	☊ a. d a. p.
26	59.98	26.6	29.5	23.8	76.8	NE	1.5	6.3	Ci.	Cu.-N. ENE	1.8	d p a. ●° p.
27	59.87	26.8	29.6	23.7	78.2	NE	1.3	3.8	Ci.	Cu. NE	.8	☊² a.
28	60.04	27.4	31.2	24.8	74.3	NE	1	3.2	Ci.	Cu. ENE	.8	d a.
29	60.75	26.2	28.2	24.5	79	NNE	1.3	4.7	Ci.	S.-Cu. ENE	-------	●° d a.
30	60.54	26.6	29.4	23.8	71.5	N	1.3	3.3	Ci.	S.-Cu. ENE	1.3	●° a.
31	59.72	26.2	27.6	24.5	80.3	NNE	1.3	6.8	Ci.-S.	Cu.-N. ENE	-------	d° a.
Mean	759.58	26.7	29.8	23.9	76.4		1.1	5				
Total											106.9	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6.5 meters; gravity correction not applied, —1.84 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.42	26.2	30.8	23.5	83.5	NE quad.	0.8	6.7	Ci.-S., A.-Cu. NNE	Cu.	-------	d a. ☇ p.
2	60.16	25.8	30.2	22.9	81.5	NE	1	4.3	Ci.-S., Ci.	Cu.	-------	☊ a.
3	58.64	26.1	31	22.6	79.3	N, NE	1	7	Ci.-S.	Cu. N	-------	
4	57.88	25.8	29.6	21.9	79.2	SW	.7	7.8	Ci.-S.	Cu.	-------	☊ ◯ a.
5	57.84	26.6	29.3	23.2	79.2	SW	1.3	6	Ci., Ci.-S.	Cu.	-------	
6	58.91	26.5	31	22.9	78	E	.3	5.3	Ci., Ci.-S.	Cu.	-------	☊ a. d° p.
7	59.63	25.5	29.1	23	83	N	1.5	5.5	Ci.-S.	Cu.	5.8	☊ ●° a. d ● p.
8	59.52	25.4	29.5	22.9	75.5	NE	2.2	2.8	Ci.	Cu.	-------	☊ a.
9	59.83	24.6	27.3	22.2	84.3	N	2.5	7.5	Ci.-S.	Cu.-N.	8.3	☊ d ● a. ☇ d° p.
10	59.56	24.5	28	23.4	90.5	N	2.8	9.5	Ci.-S.	Cu.-N.	5.8	d ● a.
11	59.27	25.7	29.4	23.2	79.2	N, NE	2.8	6.5	Ci.-S.	Cu.	-------	☊ a. ●° p.
12	59.55	26.5	30	23.7	74.7	N, NE	3.3	6.2	Ci., Ci.-S.	Cu.	-------	d p.
13	59.82	26.5	30	24.3	79.5	NE	2.5	6.7	Ci., Ci.-S.	Cu. ENE	2.3	d a. p.
14	59.94	26.6	30.1	23.7	82.3	N, NE	2.3	7.5	Ci.-S.	Cu.	-------	● d a. ☇ p.
15	59.71	26.4	30.1	24	78.7	N, NE	2.2	3.8	Ci.	Cu.	-------	d ●° a.
16	59.58	26.2	29.4	22.9	75.5	NE	2.5	5.7	Ci.	Cu.	-------	☊ a.
17	59.22	26.4	30.2	23.4	73.2	N, NE	2.5	3.5	Ci.	Cu.	-------	☊ a. ●° p.
18	58.70	25.7	29.3	22.6	75.7	NE	2	6.8	Ci., Ci.-S.	Cu. NE	-------	☊ a.
19	58.52	25	30.1	20.5	71.5	N	.8	4.2	Ci.	Cu.	-------	
20	58.34	26.1	29.5	22.6	82	NE	1.5	6.2	Ci.-S.	Cu. NE	1	●° a. d p.
21	58.29	26.3	30	23.4	81.5	N, NE	1.7	5.2	Ci.-S.	Cu. NE	4.6	● p.
22	58.84	26	28.4	24.2	84.8	N	1.8	6.8	Ci.-S.	Cu.	-------	● a. ●° a. p.
23	59.92	26	28.7	23.7	80	N	2.5	8.7	Ci.-S.	Cu.	-------	●° p.
24	59.11	26.4	29.7	23.4	76.8	N	2.2	5.7	Ci.	Cu.	5.8	◕ d p.
25	59.44	26.4	29.4	24	78.3	NE	2.7	6.5	Ci.-S.	Cu., S.-Cu.	-------	d p.
26	59.36	26.5	29.3	24.2	71	N, NE	2.8	2.5	Ci.-S., A.-Cu.	Cu.	-------	◠ d a.
27	59.43	26.6	29.7	24	78.2	N, NE	2.2	4	Variable	Cu.	-------	
28	59.77	27	30.4	24.3	77.8	NE	1.7	4.7	Ci.-S., A.-Cu.	Cu.	-------	☊ a.
29	60.23	26.6	29.7	24.1	78.5	N, NE	2.8	3.5	Ci.-S.	Cu.	4.3	☇ p.
30	60.14	26.2	29.1	23.4	75.8	N, NE	3.2	3.2	A.-Cu.	Cu.	-------	● a.
31	59.39	26.7	29.5	24.2	79.7	N, NE	2.7	4.2	Ci.-S.	Cu.	-------	☊ d° a.
Mean	759.32	26.1	29.6	23.3	79		2	5.6				
Total											37.9	

Meteorological data for first and second class stations—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.89	26.2	30.1	22.6	87.2	Variable	0.3	8.2	Ci.-S. ESE	Cu.-N. NE	2.3	p a. p. ⊤ p.
2	60.28	25.6	31.4	20.3	81.5	Variable	.5	5.3	Ci.-S. ENE	Cu.-N.	-------	Ω a.
3	58.50	25.5	30.2	22.5	84.2	NW	.3	8.7	Ci.-S. ESE	Cu.-N. N	-------	
4	57.81	25.4	29.5	21.9	80.8	NW quad.	.3	8.2	Ci.-S. NEbyE	Cu.-N. NW quad.	-------	⊕ a. ⊤ p° ⌐◹ p.
5	58.37	25.4	29.2	21.8	83.8	SE	.8	4.3	Ci.-S. NEbyN	Cu.-N.	-------	
6	59.30	25.8	31.1	19.8	78.2	S quad.	.7	4	Ci.	Cu.-N., Cu.	-------	Ω a. p° p.
7	59.79	26.9	32.2	23.2	71.8	NNW, N	.8	3.3	Ci.-S.	Cu. NE	-------	
8	59.58	25.7	31.2	21.2	72.8	NW	.5	3.3	Ci.	Cu. E	-------	
9	59.94	25	29.9	22.4	86.7	NW, N	.3	9.5	Ci.-S.	Cu.-N. E	2.3	d a. p. ◠ p.
10	59.90	26	30.1	24	83	N	.7	9.2	Ci.-S. SE	Cu.-N. E	7.4	◹ d a.
11	59.93	28	32.1	24.2	67.3	NE	1	4.8	A.-Cu. E	Cu.-N. E	-------	◠ ⌐◹ p° p.
12	60.01	27.6	32.2	24.6	71.3	NE	.8	5.2	Ci.	Cu. E	3.8	d ☽° p.
13	60.35	26.6	30.9	24	81.2	N quad.	.8	7.7	Ci.-S.	Cu.-N. E	13.2	● a. p. ☋° p.
14	60.48	26.5	29.7	23.6	82.7	Variable	.8	7.3	Ci.-S.	Cu.-N. E	5	d a. ● ☋ p.
15	60.28	27.1	31.7	22.5	74.8	Variable	.7	4	Ci.-S. E	Cu.-N. NE	-------	
16	59.90	27.1	31.4	21.4	69.7	NE quad.	.8	6	Ci.	Cu.-N. E, NE	-------	
17	59.76	26.8	30.4	22.9	73.5	NE, S	.8	5	Ci.-S.	Cu.-N. E	-------	
18	58.80	24.8	29.9	13.3	75.3	W	.3	5.7	Ci.-S. E	Cu.-N. N	-------	☋ ☋² p.
19	58.78	24.7	30.4	19.4	80.3	W	.5	4.2	Ci.-S.	Cu.-N. NNW	-------	⊕ a.
20	58.66	26.4	30.3	21.6	83	N	.5	7.5	A.-Cu. E	Cu.-N. NE	1.3	⊤ ◹ d p.
21	58.74	25.8	31.9	22.4	85.5	N	.2	7.5	Ci.-S.	Cu.-N. E	3.3	Ω a. d a. p.
22	59.10	26.5	30.6	23.3	85.8	N quad.	.5	7.7	Ci.-S.	Cu.-N. E	11.9	Ω a. d a. p. ⊤ p.
23	60.22	25.8	28.2	23.6	87.8	N	.7	9.3	A.-Cu. E	Cu.-N. NE	3.5	d a. p p.
24	59.63	26.2	31	23.4	83.8	N quad.	.5	8.3	Ci.-S., A.-Cu.	Cu.-N. NE	2	d a. p.
25	60.11	26	29.4	23.4	77.8	NE quad.	.5	8.3	Ci.-S.	Cu.-N. ENE	1.8	Ω d a.
26	60.03	27.5	32.3	23.4	68.7	Variable	.7	4	A.-Cu., Ci.-S.	Cu., Cu.-N. E	-------	◠ p.
27	60.13	26	30.8	22.6	82	Variable	.8	4.5	A.-Cu.	Cu.-N. E	1.1	Ω a. d a. p. ◠ p.
28	60.37	25.7	30.6	22.4	84.8	N, NE	.3	5	Ci.-S.	Cu.-N. E	2.8	Ω a. ◠ d p.
29	60.93	26.1	31.1	21.4	78	Variable	.3	5.2	A.-Cu. E	Cu.-N. NE	2.8	Ω ● d a.
30	60.74	27.4	31.8	23.1	67	NE	1.2	2.7	Ci.	Cu. E	-------	d a.
31	59.79	27.2	30.6	23.1	76	NE	.3	7.5	Ci.-S., A.-Cu.	Cu.-N. E	.8	⊤ d a. ◠ p.
Mean	759.71	26.2	30.7	22.4	78.9		.6	6.2			-------	
Total	-------	-------	-------	-------	-------		-------	-------			65.3	

TACLOBAN.[a]

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 2.4 meters; gravity correction not applied, —1.82 mm.]

	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.71	-------	-------	-------	-------	SE quad.	0.7	7	Ci.-S. W	Cu., S.-Cu. SE	-------	● a.
2	60.16	-------	-------	-------	-------	NW	.7	5.2	Ci.-S. SE	S.-Cu., Cu.-N. NE	-------	☋² a.
3	58.12	-------	-------	-------	-------	NW	1.2	7.5	Ci. SE	Cu., Cu.-N. NW	-------	☾² a. p.
4	57.01	-------	-------	-------	-------	WNW	1	7.2	Ci. ENE	Cu. W	-------	☾² a. p.
5	57.83	-------	-------	-------	-------	E quad.	.5	5.3	Ci. ENE	Cu. W	-------	
6	59.22	-------	-------	-------	-------	NW quad.	.7	4.5	Ci.	Cu. N	1	Ω² a. ●° p.
7	60.01	-------	-------	-------	-------	WNW	1.2	7.7	Ci.-S.	Cu.-N. N	1	● p.
8	59.76	-------	-------	-------	-------	N, NNW	.8	6.8	Ci.	Cu. NNW	4.3	
9	60.02	-------	-------	-------	-------	N	1.3	8.3	Ci.-S.	Cu.-N. N	20.3	◠ a. ● a. p.
10	60.19	-------	-------	-------	-------	NW quad.	1.5	9.5		N. NE	58.1	● a. ●² ⌐◹² ◠ p.
11	60.27	-------	-------	-------	-------	NE quad.	.8	5.8	Ci. NW	Cu.-N., Cu. E	3	● a.
12	60.40	-------	-------	-------	-------	Variable	1	6.5	Ci.-S., Ci.	Cu. E	8.1	● a.
13	60.68	-------	-------	-------	-------	N	.5	7.7	Ci.-S.	Cu.-N. E	18.7	● a. p.
14	60.77	-------	-------	-------	-------	N, ESE	1	7.7		Cu.-N. NE	14.4	● a. p.
15	60.48	-------	-------	-------	-------	NE quad.	.7	4	Ci.-S. NW	Cu. ENE	-------	
16	60.25	-------	-------	-------	-------	NNE, ENE	1.2	6.8	Ci.-S.	Cu.-N. ENE	1.3	● ☋² p.
17	60	-------	-------	-------	-------	Variable	.7	6		Cu.-N. E	2.8	Ω² ● a. ●° p.
18	58.60	-------	-------	-------	-------	WNW	1	4.8	Ci. SW	Cu. NNE	-------	Ω² a. ☋² p.
19	58.48	-------	-------	-------	-------	N	.5	5.3	Ci., Ci.-S.	Cu. NE	2.5	Ω² a. ● p.
20	58.59	-------	-------	-------	-------	N	.8	6.7	Ci.-S.	Cu.-N. NNE, NE	3.3	● p.
21	58.82	-------	-------	-------	-------	N	.8	8		Cu.-N. NE	16	● a. p.
22	59.29	-------	-------	-------	-------	Variable	.7	7	Ci.-S.	Cu., S.-Cu. E	9.4	● a. d² p.
23	60.40	-------	-------	-------	-------	N quad.	1.2	8.8	Ci.-S.	N., Cu. E, NE	12.1	● a. p. ◹ p.
24	59.69	-------	-------	-------	-------	NW	.8	9.2	Ci.-S.	N. E, ENE	15.2	● d a. p. ◹ p.
25	60.27	-------	-------	-------	-------	NE quad.	.8	8.3	Ci.-S., Ci.	N., Cu.-N. E quad.	3.8	d ● ⌐◹ a. ◹ p.
26	60.34	-------	-------	-------	-------	S quad.	.7	8.2	Ci.	Cu.-N. ESE	7.1	● p.
27	60.38	-------	-------	-------	-------	SE	.8	8.3	Ci.-S. NW	Cu.-N. ESE	3.3	● a. d ◹ p.
28	60.60	-------	-------	-------	-------	NE	.5	7.3	Ci.	Cu. SE	10.7	● ◠ a.
29	61.14	-------	-------	-------	-------	ENE, NE	1	7.3	Ci.-S.	Cu., N. E	-------	● a.
30	60.84	-------	-------	-------	-------	N	.7	6.3		Cu. ESE, E	4.5	● p.
31	60.37	-------	-------	-------	-------	NE, E	.5	8.3	Ci.-S. NW	Cu. SE, ESE	5.1	● a. d° p.
Mean	759.80	-------	-------	-------	-------		.8	7			-------	
Total	-------	-------	-------	-------	-------		-------	-------			226	

[a] The thermometer-shelter was destroyed during a typhoon on November 24–25, 1912.

Meteorological data for first and second class stations—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6.6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.86	25.6	30.6	23.3	88.8	Variable	0.5	6.5	Ci.	N. SE	0.3	●° d a. ☇ p.
2	60.76	25.6	30.4	22.4	85.3	N	.7	5.2	Ci.	Cu. N	-------	
3	59.02	26.3	31	24.2	84.2	NW quad.	.7	4.8	Ci.	Variable N	-------	
4	57.83	26.2	31.2	23.1	79.2	NW quad.	.8	7.7	Ci.-S.	Fr.-N. NW	-------	☿° a.
5	57.89	26.3	31.9	22.8	81.8	S	.7	5	Ci.	N., Cu.	-------	
6	59.21	26.3	31.4	22.7	83	NNE, NE	.7	3.5	Ci.	Cu.	-------	
7	60.28	26.8	31	25.2	78.3	NE, N	.8	6.3	Ci.-S.	Fr.-N. NE	-------	
8	60.30	26.2	31	24.2	75	N	1.2	5.2	Ci.	Fr.-Cu. N	-------	d° p.
9	60.55	25.6	29.3	24.4	83	NE quad.	1	9.3	Ci.-S.	N. NE	6.1	●° a. p.
10	60.74	24.9	28.2	23.2	89	NE	1.3	9.3	Ci.-S.	N. NE	12.3	d ●° a. p.
11	60.63	25.8	30.3	24.4	84.8	NE	1.2	7.5	Ci.-S.	Fr.-N. NE	.6	●◡ a. p.
12	60.75	26.7	31.4	24.5	83.5	NE	1.2	6.7	Ci.	N., Cu. NE	-------	d° p.
13	60.83	26.6	31.3	25.4	84.2	NE	1.5	5.5	Ci., Ci.-S.	N., Cu. NE	-------	d° a. ☿° ☋° p.
14	61.02	26.4	31.5	24.4	88.7	NE	.7	6.5	Ci.-S.	Fr.-N. NE	2.5	☿ ●° ☇ p.
15	60.58	26.7	30.9	24.4	82.2	NE	1.2	4.7	Ci.	Cu. ENE	-------	
16	60.37	26.4	30.8	24.3	79.7	NE	1	6.2	Ci.	Cu. NE	-------	
17	59.96	26.4	31.2	24.2	80.8	NE	1.3	6	Ci., Ci.-S.	Cu., Fr.-N. NE	.3	●° p.
18	59.27	25.9	29.9	24	80.3	NE	.8	6.7	Ci.-S.	N. NE	-------	☿ ◡ p.
19	58.97	26	30	21.5	77.5	NW quad.	.5	7	Ci.-S.	Fr.-N. N	1.3	●° p.
20	58.97	26.5	30.7	25	85.8	N	1	8.7	Ci.-S.	Cu., Fr.-N. N	-------	d° a. p.
21	59.06	26.7	31.3	24.7	83.7	NE quad.	1	7.8	Ci.-S.	N. NE	6.9	●° a. p. ☿ ☋ p.
22	59.64	25.9	30.6	24.6	88	NE	1.7	9.2	Ci.-S.	N. NE	4.8	●° a. p.
23	60.75	25.7	29.4	24.2	84.8	NE	1.5	9.3	Ci.-S.	N., Fr.-N. NE	.3	d° a.
24	60.01	26.1	30.8	24.4	86.5	NNE, NE	1.2	7.8	Ci.-S. NE	Variable NE	1.1	d p.
25	60.47	26	29.7	24.4	87.2	NE	1.5	8	Ci.-S.	N., Cu. NE	5.9	d° a. ● p.
26	60.40	26.3	30.3	24.6	84.2	NE	1	6.5	Ci.	Cu. NE	-------	
27	60.27	26.1	30.7	23.6	86.2	ENE	.5	5.8	Ci.	Cu. NE	-------	
28	61.52	26.4	31.2	24.1	87	NE	.8	6	Ci.	Cu., N. NE	1	
29	60.96	26.8	31.9	24.6	83.2	NE quad.	1.5	4.7	Ci.	N., Cu. NE quad.	1	●° a. d° p.
30	61.01	26.2	31.2	23.3	83.3	NE	1	5	Ci.	N., Cu. NE	-------	●° a.
31	60.20	26.4	31.9	24.7	85.7	NE	1.2	6.3	Ci.	Cu., N. NE	5.3	☿° ● ☇ p.
Mean	760.10	26.2	30.7	24	83.7		1	6.6			-------	
Total	-------	-------	-------	-------	-------		-------	-------			49.7	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.80 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.71	25.7	29.4	23.1	90.2	N	0.3	4.7	Ci.-S. SE	S.-Cu., Cu. E	-------	☇ p.
2	60.33	25.3	30.7	21.4	89	NE	.7	6.3	Ci.-S. ESE	S.-Cu. NE	2.8	☊ a. d p.
3	58.17	25.1	30.2	22.1	87.5	N, NNW	.5	6.7	Ci.-S.	S.-Cu. N	-------	d° a.
4	56.78	25.8	28.3	22.2	84.8	W	1.3	8.5	Ci.-S.	S.-Cu. WNW	-------	
5	57.76	26.8	30	22.5	84.5	SW	1	4.8	Ci.-S.	S.-Cu. W, WSW	-------	
6	59.19	25.2	31.1	20.8	88.5	N	.7	2.3	Ci.	Cu. N	-------	☊ a.
7	60	25.7	31.8	23.2	86	N	1	6	Ci.-S.	S.-Cu. N	-------	
8	59.73	25.4	30.8	21	85.5	N qnad.	.5	1.2	Ci.	Cu., S.-Cu.	4.1	☰° a.
9	60.25	24.2	26.3	22.7	94.2	NE	.5	9.2	Ci.-S.	N. NNE	13.7	●° a. p.
10	60.36	24	26.6	22.5	94.7	NE	.5	9	Ci.-S.	S.-Cu. NE	38.3	● a. p. ⊤ p.
11	60.18	25.3	30	22.5	89.2	N	.8	4.3	Ci.-S.	S.-Cu. NNE	1.8	d a. p.
12	60.43	25.7	31.9	22.2	87.3	NE	1.2	4.2	Ci.-S.	S.-Cu. NE, ENE	.8	☊ ☰° a.
13	60.70	25.5	27.6	24	90.3	NE	.8	7.2	Ci.-S.	S.-Cu. ENE	3.8	d° ●° a. ∞ p.
14	60.62	25.9	31.3	23	86.5	N quad.	.7	3.8	Ci.	S.-cf. E	-------	∞ ☇ p.
15	60.40	25.8	32.3	22.2	86.5	NNE	1	1.8	Ci.	S.-cf., Cu. ENE	-------	☊ ☰° a.
16	60.21	25.5	31.6	21.4	84	N, NE	1	3.2	Ci.-S.	S.-cf. NE	-------	☊ a. ☿ p.
17	59.96	24.6	29.9	21.3	89.2	N, NE	.3	3.5	Ci., Ci.-S.	S.-cf., N. NE	3.8	☊ a. ●° ☿ p.
18	58.66	24.2	31.3	19.2	84.2	NW	.5	5.5	Ci.-S.	S.-Cu. N	-------	☊ a. ◠ p.
19	58.40	24.2	29.6	20	89.8	W	.5	6.7	Variable	S.-Cu. NW	-------	☰° ☊ a. ☿ ☋ p.
20	58.60	25	29.7	22.4	91.8	N	.3	6.5	Ci.-S.	S.-Cu. N quad.	3	d° ☿ ☇ p.
21	58.68	25.1	29.7	22.4	91.2	NNW, N	.2	7.3	Ci.-S., A.-Cu. E	S.-Cu. NNE	6.3	☊ a. d° ☿° p.
22	59.29	25.2	29.3	23.6	93.3	Variable	.7	7.8	A.-Cu. E	S.-Cu. NE	25.1	●° a. p. ☿° p.
23	60.44	24.1	29	21.8	91.8	N	.8	8.7	A.-Cu. E	S.-Cu. N	1.5	● d° a. ☿ p.
24	59.75	24.8	31.4	21.9	91.3	N	.8	8	A.-Cu. SE, ESE	Cu., Fr.-N.NNE,NE	13.2	● ☿ p.
25	60.18	25.5	31.1	21.8	88.3	N, NE	.8	7	A.-Cu. E	S.-Cu. NE	-------	◠ a. ☿ a. p.
26	60.30	25.7	32.2	21.6	81.8	Variable	.5	6.2	Ci.-S.	S.-Cu. NE	-------	
27	60.28	25.4	30.7	22.2	88.5	NE quad.	.5	6	A.-Cu. SE	S.-Cu. ENE	6.3	☿ d° ●° a.
28	60.43	25.2	28.6	23.3	91.7	N, NNE	.3	7.3	Ci.-S.	N. ENE, E	5.8	●° a. p. ⊤ ◠ p.
29	61.07	25.6	30.7	22.3	86.7	N	.7	2.5	-------	S.-cf. ENE	-------	☊ a.
30	60.85	26	31.2	21.9	82.7	Variable	.5	3.3	Ci.-S.	S.-cf. ENE	9.4	☊ a. ●° p.
31	60.12	25.7	31.4	23.2	87.7	NE	1	7.7	Ci.-S.	S.-Cu. ENE	2.5	●° a. p. ⊤ ☇ p.
Mean	759.77	25.3	30.2	22.1	88.3		.7	5.7			-------	
Total	-------	-------	-------	-------	-------		-------	-------			142.2	

Meteorological data for first and second class stations—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.81	27.1	31.9	21.6	83.2	E	0.8	4.5	Ci. S	Cu. E	-------	
2	60.69	25.6	32.4	19.7	84.5	NNE	.3	5.2	Ci.-S.	Cu. ENE	-------	
3	58.62	25.3	30.9	20	81.5	NNE	.8	4	Ci. SE	Cu. NNE, N	-------	
4	56.60	25.1	27.4	21.1	85.3	W	1	9.3	Ci.-S.	Cu. WNW	-------	
5	57.38	26.3	30.9	22.2	85	WSW, W	1.3	6	A.-Cu. SW	Cu. WSW	-------	
6	59.42	25.7	31.8	20.1	82.7	NNE	.7	2.7	Ci.	Cu. NNW	-------	
7	60.51	25.4	29.2	22.9	78	NNE	1.8	3.2	Ci.	Fr.-Cu. NNE	-------	d° a.
8	60.39	24.5	28.6	19.9	80.2	NNE, NE	1.3	3.5	Ci.	N. NNE	1	● p.
9	60.87	25.1	29.5	21.9	82.5	NNE, NE	1.7	7.3	Ci.-S.	N. NE	137.5	d ●² p.
10	61.30	24.2	25.6	21.1	91.8	NE	1.7	9.7	Ci.-S.	Fr.-N. NE	47.1	●² a. ● p.
11	60.96	26.1	30.5	22.7	81.7	NE	1.2	5	Ci., Ci.-S.	Cu.-N. NE	2.7	●° a. p.
12	61.18	26.6	29.8	23.1	82.2	NNE	1	5.3	Ci.-S.	Fr.-N., Cu.-N. ENE, E	10.2	●° d² a. p ◠ p.
13	61.29	25.8	28.2	23.3	86.8	NE	1	5.3	Ci.-S.	Fr.-N. ENE	16.5	● d a. p.
14	61.18	26	27.5	22.6	86.7	NNE	.8	5.3	Ci.-S.	Fr.-N. ENE, NE	4.6	● a.
15	60.98	27.4	31.9	23.6	82	NE	.7	2	Ci.	Cu. E	-------	
16	60.80	26.5	30.7	23.4	77.5	NE quad.	1.7	3.2	Ci.-S.	Cu. ENE, E	.3	●° a.
17	60.49	26.3	31.8	23.4	79.2	NNE	.8	4.8	Ci.-S.	Fr.-Cu. ENE, E	4.6	● d p.
18	59.04	25.7	30	19.1	75.7	NNE, NE	1	4	Ci.	Cu. N	-------	◡° p.
19	58.42	25.1	29.5	20.2	85.5	N	.2	5.2	Ci.-S.	Cu. NNW	-------	
20	58.85	25.9	31.2	20.5	85.2	NNE	.5	3.8	Ci.	Cu. NNE	-------	d° p.
21	59.01	26.5	30.9	21.7	80.7	NE, NNE	1.3	2.2	Ci., Ci.-S.	Cu. NE	2	
22	59.70	25.2	27.4	22.4	86.7	NE quad.	1.3	7.8	Ci.-S.	N., Cu. NE	26.2	●° a. d° p.
23	61.08	23.9	25.2	20.6	90	NNE	1.5	8.7	Ci.-S.	N., Fr.-N. NNE	38.6	●² a. ●° p.
24	60.50	24.2	27.4	21	92.2	NE	.8	10	Ci.-S.	Fr.-N. NE	53.6	● d a. p ●² p.
25	60.98	25	27.1	21	88.8	NE	1.5	10	Ci.-S.	Fr.-N. NE	138.8	●² a. p.
26	60.84	26.5	30.7	22.5	85.2	NE quad.	1.2	6.3	Ci.-S.	Fr.-N. ENE	2.6	● d a.
27	60.71	26	30.6	22.5	88.7	NE quad.	.8	7.5	Ci.-S.	Fr.-N., Cu.-N. E	22.4	● a. p.
28	60.88	25.5	29.8	22.3	90.7	NE	.2	6.7	Ci.-S.	N. ENE	32.7	● a. p.
29	61.69	25.5	29.5	22.6	88	NE	.8	5.8	Ci.-S.	N. E	6.1	● a. d a. p.
30	61.60	26.1	29.9	22.2	82.3	NE	1.3	4.2	Ci.-S.	Fr.-N. ENE	10.2	● a. p.
31	60.92	25.7	29	23	87	NE, NNE	1.3	8	Ci.-S.	Fr.-N. E, ENE	16.8	● a. p.
Mean	760.25	25.7	29.6	21.7	84.4	-------	1	5.7	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	574.5	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.74 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.77	24.7	29.2	22.4	92.7	SW	1	8	A.-Cu. SE	N. S	40.6	⊤ d° ●² ⊓⊿² p.
2	61.04	25.3	31.5	21.6	87.2	SW, N	1.8	4.5	Ci. E	Cu. NE	13	
3	59.27	26.2	28.3	24.4	85.5	N	2.7	8.5	Ci.-S. E, ESE	S.-Cu. NE	1.8	●° a. p. d² p.
4	57.67	26.4	29.5	23.5	80.8	SW	1.5	10	Ci.-S.	S.-Cu. NE, N	-------	
5	57.37	25.6	31.2	22	87.3	SW	.8	8.8	Ci.-S. E	S.-Cu. W, NNW	8.1	●° ≡² p.
6	59.63	25.8	29.2	22.5	85.5	NE	1.8	6.2	Ci. E	S.-Cu., Cu. NE	3.8	Ω° a.
7	61.21	25.9	27.5	24	77	NE	4	7.3	Ci.	S.-Cu. NE	2.1	●° d² a.
8	61.16	25.5	27.4	22.5	76.7	NE, N	4	8.8	A.-Cu. NE	S.-Cu. NE	13.7	●° d° a. p. d² p.
9	61.87	24.5	27	22.6	86.2	NE	4.5	8.3	A..Cu. NE	N. NE	14.8	d° a. ●° a. p. ↙° p.
10	62.22	24.7	25.8	23	85.2	NE	5.7	10	Ci.	N. NE	9.7	●° ↙° d° a. p.
11	61.87	24.7	26.1	23	89.8	NE	4	8.8	A.-Cu. E	S.-Cu. NE	4.6	●° a. p. d° p.
12	61.78	26.1	28.2	24.5	82.8	NE	3.7	6	A.-Cu. E	Cu., S.-Cu. NE	1.8	●° a.
13	61.77	26.1	27.6	24.3	85	NE	3.3	7.3	Ci.	S.-Cu. NE	1.6	d² a. ●° a. p.
14	61.83	25.6	27.8	23.3	89.3	NE, N	2.2	6	Ci., Cu. E	S.-Cu. NE	1.8	d° ●° a. ◠° ↘° p.
15	61.35	26.3	29.9	23.7	86	NE	1.5	4.2	Ci.	Cu. E	3.6	
16	61.30	25.8	28.7	23.6	80.5	NE	2.5	6.2	Ci., A.-Cu. ENE	Cu., S. E	1	● a. ⊽° p.
17	60.54	26.3	30	24.4	81.8	NE	1.7	7.2	A.-Cu. E	Cu. NE, E	-------	⊽° p.
18	59.72	26.2	28.9	24.8	77.5	NE	2.2	5.7	A.-Cu. NE	Cu. NE	-------	d° a. ⊽² p.
19	58.94	24.6	29.9	21	81.3	SW	.5	4.7	Ci. E	S.-Cu. NE	-------	⊽² p.
20	59.31	25	28.4	21.1	86.5	NE	2.3	8	Ci.	S.-Cu. NE	.3	d° ⊽² p.
21	59.54	26.6	28.9	25	79.5	NE	2.8	4.5	Ci. ENE	Cu. NE	-------	⊽² p.
22	60.39	26.5	28.8	25.3	77.3	NE	3.3	5.2	Ci.	S.-Cu., Cu. NE	-------	⊽° p.
23	61.82	25.8	28.2	24	75.2	NE	4	8.2	A.-Cu. E	S.-Cu. NE	-------	d² d° p.
24	61.32	25.2	26.3	22.8	83.7	NE	4.7	9.5	Ci.-S.	S.-Cu. NE	19.1	d° d² a. p.
25	61.71	25	26.8	22.7	87.2	NE	4.5	9.8	Ci.	N. NE	34.6	●° a. p. d° p.
26	61.49	24.9	27	22.2	90.7	NNE, NE	2.3	9.3	A.-Cu.	S.-Cu., N. NE	-------	● a. d° p.
27	61.16	25	29.7	20.8	89.5	NE quad.	1.8	7.2	A.-Cu. E	S.-Cu. NE	2.5	Ω² ≡° a. ● p.
28	61.14	26.2	29	23.3	87.2	N quad.	2.2	5.7	Ci.-Cu. E	S.-Cu' NE	-------	Ω a.
29	61.81	25.5	26.8	24.2	90.5	NE quad.	3.2	9.8	Ci.	N. NE	16.2	●° a. d² a. p. ⊤° p.
30	62.05	25.9	28.7	24.3	87	NE	2	8	A.-Cu. ENE	S.-Cu. NE, ENE	5.8	d² a. ● p.
31	61.56	25.9	28.4	23.8	87.5	NE	3.2	8.5	Ci.-Cu. ENE	S.-Cu., N. NE	61	● a. p. d° p.
Mean	760.79	25.6	28.4	23.2	84.5	-------	2.8	7.4	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	261.5	

Meteorological data for first and second class stations—Continued.

PARACALE.

[ϕ=14° 17′ N; λ=122° 47′ E; barometer above sea, 5.3 meters; gravity correction not applied, —1.73 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.80	25.9	30.6	23	88.8	NE	0.5	6.5	Ci.-S.	Cu. E	-------	☊ a. p. ☾ p.
2	61.06	25.6	29.8	21.6	88.2	NE quad.	.5	5	Ci., Ci.-S.	Cu. NE quad.	2.5	☊² a. ●° p.
3	59.44	26.3	28.8	23.4	83.7	NNE	.8	5.7	Ci.	Cu. NE, NNE	.8	● ☊² a.
4	57.25	26.6	28	24.3	75.5	NW	1	10	Ci.-S.	Cu. NNW	-------	p p.
5	57.27	26.3	30.8	23.6	84.2	SW	1	7.3	Ci.-S.	Cu. WNW	2.3	☊ a. p.
6	59.77	26.5	29.6	23	81.8	NNE	1	6	Ci.	Cu. N quad.	2.3	☊ ● a.
7	61.33	25.8	28	23.8	74.7	NNE, NE	2.7	7.7	Ci.-S.	Cu. NNE	6.1	● a.
8	61.34	25.3	28	22.1	79.5	NE	2.3	10	Ci.-S.	Cu. NE	.5	● a. ●° p.
9	61.92	25.6	28.2	23.2	83.2	NE	3.5	9.8	Ci.-S.	Cu. NE	58.9	● a. p.
10	62.42	25.8	27	23	80.5	NE	4.7	10	Ci.-S.	S.-Cu. NE	10	☄° a. ● a. p.
11	61.92	25.8	28.2	23	87.2	NE, ENE	3	9.3	Ci.-S.	S.-Cu. NE, ENE	17.6	● a. p.
12	62.03	26.7	29.2	24.5	79.5	ENE	2.8	5	Ci.	Cu. ENE	4.5	● a. p.
13	62.19	26.6	28.3	24.8	84.2	ENE	2.8	6.3	Ci.	Cu. ENE	6.6	d° a.
14	62.10	26.2	29.4	23.8	89.8	ENE	1.5	9	Ci.-S.	Cu. E, ENE	14.3	● a. p.
15	61.42	26	28.4	23.1	87.7	E	1	6.7	Ci.	Cu. E, ENE	.3	☊² ●° a.
16	61.43	26.5	28.3	24	79.5	ENE	2.5	8.2	Ci.	Cu. E	5.6	●° a. ● p.
17	60.93	26.1	28.5	24	81.7	NE	1.5	8	Ci.-S.	Cu. E	1	●° a. p. ⌒ ☋ ☊ p.
18	59.93	25.6	28.8	22.7	80.3	NE quad.	1.2	6.7	Ci.	Cu. ENE	-------	☊² d° a.
19	59	25.8	28.4	23.1	82	NW	.3	8.3	Ci.-S.	Cu. N	4.8	d° ☨ p.
20	59.52	26.5	27.8	23.9	84	NNE	1.7	10	Ci.-S.	S.-cu., Cu. N, NNE	5.9	● ⌒ d° a. ☋ p.
21	59.77	26.5	28.6	24.9	81.8	NNE	1.5	8.3	Ci., Ci.-S.	Cu. NNE	1.1	●° d a. p.
22	60.85	26.5	30.3	24.4	74.3	NE	2	7.2	Ci., Ci.-S.	Cu. NE	-------	
23	61.90	26.1	27.2	25.2	77	NE	2.5	10	Ci.-S.	Cu. NE	12.4	
24	61.51	23.9	26.3	21.9	92.3	ENE	3.2	10	Ci.-S.	N. ENE	141.5	● ☄° a. ●² p.
25	62.05	25.1	26.4	22.1	87.7	ENE	4	10	Ci.-S.	N., S.-Cu. ENE	113.3	●² a. ☄° ● p.
26	61.60	24.9	27.8	22.3	91.2	ENE	1.7	9.3	Ci.-S.	Cu., S.-Cu. ENE	7.1	●² a. ☊ p.
27	61.44	25	27.8	22.1	91.3	ENE	1	8.7	Ci.-S.	Cu. ENE	10.5	● a. p.
28	61.51	25.6	30	22.6	88.5	NE	.5	6.7	Ci.	Cu. ENE	9.1	● a.
29	62.22	26.2	28.3	24.2	88.2	NE	2	9	Ci.-S.	Cu. NE	8.8	● a. p.
30	62.41	25.8	27.8	24.1	87.2	ENE	1.5	6.5	Ci., Ci.-S.	Cu. ENE	3.3	●° d° a. p.
31	61.92	26	28.8	23.1	89.2	ENE	2.5	9	Ci.-S.	S.-Cu., Cu. ENE	40.9	●° a. ● p.
Mean	760.98	25.9	28.5	23.4	84	-------	1.9	8.1	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	492	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*					*mm.*	
1	760.65	25.6	31.5	22	90	S	1.3	7.5	Ci.		Cu.-N.	S	2.3	☰° a. d² p.
2	61.05	25.3	31.1	21.5	85	NE	1.5	5	Ci.		Cu.	SSW, E	-------	☰ a. ☊ a. p.
3	59.63	24.8	31	20	85.5	NE, NW	1.3	5.8	Ci.	SE	Cu.	NNE, NE	-------	☰ a. ☊ a. p. ◯ p.
4	58.12	25.2	31.1	22	90	NW	1.5	6.8	Ci.		Cu.	NNW	.5	☰² ☊² a. d ◯ p.
5	57.91	25.8	32	22.6	86.7	WNW	1.7	6.5	Ci.		Cu.	W	-------	☰ a. ☊ a. p. ◯ p.
6	59.72	25.5	31.1	21.4	83.8	NE, NW	1.7	4.2	Ci.		Cu.	NW	-------	☰ a. ☊ a. p.
7	61.14	24.3	29.9	20.3	76.8	NNE	2.7	2.7	Ci.		Cu.	NE	-------	☊ a. p.
8	61.62	23	29.2	17.1	74.2	NE	2.5	2.5	A.-Cu., Ci.		Cu.	NE	-------	☰ a. ☊ a. p.
9	62.07	23.8	28.8	19.6	78.8	NE	2.7	5.7	A.-Cu.	ENE	Cu.	E	-------	☊° a.
10	62.24	24.6	30.4	21.2	76.3	NE, N	2.8	5	A.-Cu.	NE	Cu.	ENE	-------	☊° a.
11	62.16	24	26.6	20.4	79.5	NE, N	2.7	7	A.-Cu.	ESE	Cu.	ENE	.5	☊° a. d p.
12	61.99	25	32	20.7	77.3	NE, N	2.5	4.7	Ci.		Cu.	E	-------	☊ ☰° a.
13	62.07	24.9	32	19.4	77.3	NE	2.2	3.8	Ci.	SE	Cu.	E	-------	☊ a. p.
14	62.28	25.3	31.6	20	79.8	NE, N	2.2	3.7	Ci.		Cu.	E	-------	☰° a. ☊ a. p.
15	61.44	25.4	31.5	21.4	82.5	NE quad.	2	3.7	Ci., A.-Cu.	NE	Cu.	E	-------	☊ a. p.
16	61.34	24.3	31.7	19.6	80	NE, N	2	4.8	A.-Cu.	ENE	Cu.	E	-------	☊² ☰ a. ☊ a. p.
17	61.04	24.2	31.3	19	81	E, N	2.2	3.7	Ci.		Cu.	E	-------	☊² ☰° a. ☊ a. p.
18	60.09	24.6	31.6	18.5	82.8	NE	1	3.8	Ci.	SE	Cu.	NE quad.	-------	☰ a. ☊ a. p. ☋ p.
19	59.19	24	30.7	18.3	84.2	NW quad.	1.2	5.3	Ci.	ESE	Cu.	N	-------	☊² ☰ ◯ a. ☊ p.
20	59.42	25.4	32.1	19.5	83.3	NE	1.5	4.3	Ci.		Cu.	NE	-------	☊² ☰² a. ☨ p.
21	59.58	25.4	31.8	20.6	80	NE	1.7	4.2	Ci.		Cu.	E	-------	☰° a. ☊ a. p.
22	60.52	24.2	30.4	19.5	81.7	E, NE	1.3	4.8	A.-Cu.	ENE	Cu.	E	-------	☰° a. ☊ a. p.
23	61.89	24.1	31.4	19	80	N	2.3	3.3	Ci.	ESE	Cu.	E	-------	☰ a. ☊ a. p.
24	61.54	24.3	31.7	20.3	82	N	1.7	6.2	Ci.-S., Ci.		Cu.-N., Cu.	E	.5	☊ ☰° a. d° p.
25	62.32	25	30.6	21	77.7	NE	1.7	8.5	A.-Cu.	ESE	Cu.-N.	E	7.1	d a.
26	62.15	23.4	27.9	21.4	94.5	NE	2.7	9.8	Ci.-S.		Cu.-N.	E	19.3	d² ● a. p. ☄° p.
27	61.55	25	30	21	84.2	N	2	6.2	A.-Cu.	ESE	Cu.	E	.5	☊ p.
28	61.58	25.3	31.6	21.5	85.8	NE, N	1.7	4.5	Ci.		Cu.	E	-------	d a. ☊ a. p.
29	62.08	25.7	31	21.5	82.7	N, NE	1.8	7	A.-Cu.	ESE	Cu.	E	-------	☊² ☰² a.
30	62.30	24.9	30.7	21.9	86.7	NE, E	1.7	4.3	A.-Cu.	E	Cu.	E	-------	☊ a. p.
31	62.10	24.6	30.5	20.9	83.7	N, NE	1.5	4.7	A.-Cu.	ENE	Cu.	E	1.1	☊ a. d ☄° p.
Mean	761.06	24.7	30.8	20.4	82.4	-------	1.9	5.2	-------		-------		-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------		-------		31.8	

Meteorological data for first and second class stations—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.53	26.4	32.4	22.5	80.2	SE	1.7	6.3	Ci.-S. E	S.-Cu., Cu.	-------	d a.
2	60.42	27.4	34.5	22.4	80	SE, NW	.8	4.8	A.-Cu.	Cu.	-------	☰ ☊ a.
3	59.12	26.9	31.6	22.5	79.5	N quad.	1.2	6.3	Ci., Ci.-S.	Cu.	4.1	●° p.
4	57.62	26.2	31.5	22.9	85.2	W quad.	1	6.3	Ci.-S.	Cu.	-------	● a.
5	57.28	26	30.4	23	82.8	NW quad.	1.8	3.3	Ci.-S.	Cu.	-------	◯ a.
6	59.27	26	29.5	21.6	79.2	NW	1.5	3.7	Ci.-S.	Cu.	-------	☰° a.
7	60.37	25	32	20.4	77.7	Variable	.7	2.3	Ci.	Cu.	-------	☰ ☊° a.
8	61.05	24.1	29.4	17.7	69.3	NW, S	1	1.3	A.-Cu.	Cu.	-------	☊° a.
9	61.29	23.9	31	18.2	72.5	SE quad.	.7	1		Cu.	-------	☊° a.
10	61.32	25	31.7	20.3	67.7	SE	1.3	2.3	A.-Cu. SSE	Cu.	-------	☊° a.
11	61.32	24.7	31.2	19.6	73.3	S, SSE	1	3.8	Variable	Variable	-------	☊° a. d° p.
12	61.34	25.4	31.5	20.5	76.5	Variable	.8	1.8	Ci.	Cu.	-------	☊° a.
13	61.02	25.9	34	19.7	71.2	SE quad.	1	.8	Ci.	Cu.	-------	☊ a.
14	61.53	26	32.5	19.5	74.8	N quad.	1	1.8	Ci.	Cu.	-------	☊ a.
15	60.90	25.5	30.2	21.5	82.2	W quad.	1	3.2	Ci.	Cu.	-------	
16	60.48	26.3	32.9	22.3	74.3	SE quad.	1	.7	Ci.	Cu.	-------	
17	60.33	25.2	30.5	19.4	75.3	SE quad.	1	2	Ci.	Cu.	-------	☊ a.
18	59.58	25.8	31.5	20.5	75.8	NW, SE	1	2.7	Ci.	Cu.	-------	☊ a.
19	58.59	25.8	31.1	22	78.7	NW	.8	7.8	Ci.-S.	Cu., S. SE	-------	☔ p.
20	58.89	25.5	30.6	20	80	NW	.8	1.7	Ci.	Cu.	-------	☊ a.
21	59.02	25.9	32.5	21	79	NW, SE	.8	2	Ci.	Cu.	-------	☊ a.
22	59.84	24.8	30.2	20	81.5	NW	.8	1.2	Ci.	Cu.	-------	☊° ☰° a.
23	61.14	25.8	33.4	19.5	70	S	.7	1.5	Ci.	Cu.	-------	☊ a.
24	60.84	24.7	31.9	19.9	75.3	SE	.8	6	A.-Cu. SSE	Cu.	-------	
25	61.19	26	32	22.6	69.7	S	.8	9.2	A.-Cu. SE	S.-Cu.	-------	
26	61.05	25.9	31.6	21.6	74.5	S quad.	1.3	8.8	A.-Cu. SE	S.-Cu. ESE	3.8	● p.
27	60.22	26.1	32.9	21.5	72.7	SE	1.3	8	A.-Cu.	S.-Cu.	-------	d^2 a.
28	61.10	26	31	21.4	79	SE, NNW	1.3	1.7	Ci.	Cu.	-------	☊ a.
29	61.49	25.5	30.1	21.5	83.8	N	.3	3.8		Cu.	-------	☊ ☰° a.
30	61.55	26.4	33	23	77.5	SE	.5	3.5	Ci.	S.-Cu. SE	-------	☊ a.
31	61.53	25.3	30	20.6	83.8	NW	.7	1.5		Cu.	-------	☊ a.
Mean	760.33	25.7	31.6	20.9	76.9		1	3.6				
Total											7.9	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 9.7 meters; gravity correction not applied, —1.65 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.18	26.3	31.9	23.6	80.2	SE	4.2	9.7	Ci.-S.	S.-Cu., Cu. S	-------	
2	60.48	26.6	31.5	23.6	83.3	SE quad.	2.5	6.8	Ci.-S.	S.-Cu.	1.5	☊² a.
3	59.22	26.8	30.6	23	85.2	WNW	2.7	10	Ci.-S.	S.-Cu.	.8	●° a.
4	57.79	26.6	30.6	22.9	81.3	NNE	3.3	10	Ci.-S.	S.-Cu.	-------	d ² ◯° a.
5	57.71	26.6	28.7	25.7	77.7	NNE	7	9.5	Ci.-S.	Fr.-Cu. NNE	-------	↙° a. ↙ p.
6	59.52	26.6	29.5	24.9	75.8	NNE	6	10	Ci.-S.	Cu. NE	-------	↙° a.
7	60.41	24.6	30.1	20	82	NE, S	1.8	4.2	Ci.-S.	S.-Cu.	-------	☊² a.
8	60.98	24	29.5	18.6	75.3	SSE, NNE	3	2	Ci.	Cu. NNE	-------	☊² ∞ a.
9	61.30	24.8	30.1	19.4	74.8	SSE, NNE	2.5	1.2	Ci.	S.-Cu.	-------	☊² a.
10	61.26	24.8	30.4	19.6	76	SE, NNE	3	5	Ci.-S.	S.-Cu.	-------	☊² a.
11	61.29	25.2	32	20.4	75.8	SE	2	6.5	Ci.-S.	S.-Cu.	-------	☊ a.
12	61.37	26.1	31.5	21.1	80.3	SSE	2.2	6.7	Ci.-S.	S.-Cu.	-------	☊ a.
13	61.11	25.6	32	21.6	74.7	SE	2.8	9	Ci.-S.	S.-Cu.	-------	☊ °a.
14	61.63	25.6	31.5	20.9	79.5	NNE	2.8	9.2	Ci.	S.-Cu.	-------	☊ a.
15	60.98	25.4	30.6	21.4	83.5	SSE, NNE	2.5	10	Ci.-S.	Cu., Fr.-Cu. NNE	-------	☊² a.
16	60.50	25.4	31.9	20.5	79.8	S, NNE	2.8	4.8	Ci.-S., Ci.	S.-Cu.	-------	☊² ∞° a.
17	60.26	25.4	31.4	19.2	78.3	SSE, NNE	2.8	7.3	Ci.-S.	S.-Cu.	-------	☊² a.
18	59.75	26	31.4	21.5	79.5	N quad.	3.2	6	Ci., Ci.-S.	Fr.-Cu.	-------	☊ a.
19	58.64	26.7	31.2	21.2	77.5	NNE	3.2	10	Ci.-S.	Cu. NE	-------	◯ °p.
20	59.02	25.7	31	19.9	82	NNE	2.8	9	Ci.-S.	Cu.	-------	☊² ∞ a.
21	59.20	26.4	30.8	22.5	79	NNE	3.7	9	Ci.-S.	Cu.	-------	☊ a.
22	59.93	26.4	30.7	21.6	73.7	NNE	3.5	3.8	Ci.	S.-Cu.	-------	
23	61.14	25.8	30.9	19.3	74.5	SSE, NNE	3.3	3.8	Ci.	S.-Cu.	-------	☊ a.
24	60.89	25.5	31	19.4	79	NNE	2.8	5.3	Ci.	S.-Cu.	-------	☊² ∞ a.
25	61.22	26.2	31.9	22.9	72	SSE	3.3	9.8	Ci.-S.	S.-Cu.	-------	☊ a.
26	60.94	26	31	23	78.7	SE	2.3	10	A.-Cu.	S.-Cu.	-------	d° ↙° p.
27	60.36	25.6	29.9	21.3	79.5	SE quad.	2.8	8.5	Ci.-S.	S.-Cu.	-------	↙° a.
28	61.38	25.7	30.9	21	81	NNE	3.8	6	Ci.-S.	Cu. NNE	-------	☊² a. ↙° p.
29	61.57	26.8	31.1	24.1	79	NNE	3.7	7.2	Ci., Ci.-S.	Fr.-Cu. NNE	-------	
30	61.61	26.5	32	22.2	80.2	SSE	2.8	5.3	Ci.-S.	S.-Cu.	-------	☊ a.
31	61.62	26.4	30.6	21.7	81.5	N quad.	3.2	4.3	Ci.-S.	S.-Cu.	-------	☊ a.
Mean	760.40	25.9	30.9	21.5	78.7		3.1	7.1				
Total											2.3	

Meteorological data for first and second class stations—Continued.

BAGUIO.[a]

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1,512.5 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	637.41	17.8	23.1	14.9	83.2	SE	2.5	6	A.-Cu. SbyE	Cu. SEbyS	-------	●° a.
2	38.06	17.6	24.5	14.5	89.5	Variable	1.5	7.1	A.-Cu.	Cu. SSE	-------	Ω² ≡ a. ≡° p.
3	36.82	17.6	22.6	15.3	83.7	E, W	1.3	7.4	Ci.	Cu. SSE, E	-------	Ω² ≡° a. ≡ p.
4	35.68	18	23.6	14.4	86.8	W	.8	7.6	Ci.-S. SSE	Cu. NE	-------	Ω ◯ a. ≡ a. p.
5	35.28	17.9	22.8	15.3	87	SW quad.	1	6.7	Ci.-S. SE	Cu. NNE	-------	≡° p.
6	36.78	17.3	23.2	13.2	82.2	Variable	.8	4.9	Ci.	Cu. NE	-------	Ω² ≡ a.
7	37.45	15.8	22.3	12	64	Variable	1.5	3.1	Ci.	Cu.	-------	Ω a. ≡ a. p.
8	37.58	14.5	20	10.8	74.7	Variable	1.2	3	Ci.-S.	Cu. E	-------	≡ Ω² a.
9	37.91	16.3	22.8	12.1	71.8	E, SE	2.2	2.3	Ci.-S.	Cu. E	-------	
10	38.25	16	23	12.7	75	E	3.3	2.7	Ci.-S., A.-Cu.	Cu.	-------	
11	38.46	16.8	24.8	12.9	74.7	E	2.7	6.7	A.-Cu. ENE	Cu. SE	-------	
12	38.70	18.2	24.5	14	66.3	E	1.7	2.7	Ci.	Cu. NE	-------	Ω° a.
13	38.55	18.3	25.7	13.7	53.5	E	2.2	1.6	Ci.	Cu.	-------	
14	39.06	18.4	25	13.6	63.5	Variable	1	3.1	Ci.	Cu. E	-------	Ω° a. ≡° p.
15	38.37	17.7	23.9	15.1	81.3	SE	1.2	5.9	Ci.	Cu.	-------	Ω² ≡° a. ≡² p.
16	37.99	17.6	24.5	14	75.5	E	2	3.7	Ci.	Cu.	-------	Ω a. ≡ p.
17	37.51	17.1	24.6	13	72.2	E, SE	3	5.1	Ci.	Cu. E, ESE	1.6	d p.
18	37.15	18.4	25	14.6	79.5	E	1.5	3.3	Ci.	Cu. E	-------	∞ a. ≡° p.
19	36.32	18.1	24.6	12.6	56.7	NE, SW	.8	6.3	Ci.-S. S	Cu.	-------	◯ p.
20	36.70	18.3	24.3	14.5	67.8	Variable	1.2	3.1	Ci.	Cu. SEbyE, NNE	-------	∞² a.
21	36.75	17.2	22.9	13.3	70.8	Variable	1.2	4	Ci.	Cu. SW, WSW	-------	≡ Ω² a.
22	37.08	16.8	23.5	12.7	76.3	Variable	1.7	3.9	Ci.	Cu.	-------	Ω a. ≡ p.
23	38.08	15.8	22.9	12	80.2	E	1.8	3.3	Ci.	Cu. Variable	-------	Ω² ≡° a.
24	37.91	17.1	24.9	12.7	70.5	E, SE	2	4.9	A.-Cu. SE	Cu. E	-------	Ω a. ≡° p.
25	38.22	16.8	23	13.9	72.3	SE, E	3.2	7.9	A.-Cu. SE	Cu. E	-------	
26	38.26	17.4	21	13.8	74.2	ENE	5.3	8.7	A.-Cu. S	Cu. ESE	5.2	↙° a. d a. p.
27	37.77	17.1	23.3	13.6	70.2	E, ENE	4	8.1	A.-Cu. SW	Cu.	-------	●↙ a.
28	38.41	17	22.5	14.4	86.5	E	2.7	3.9	A.-Cu.	Cu. SE	-------	Ω° a. ≡° a. p.
29	38.64	18.5	24.9	14.9	75.7	SE, ENE	2.7	1.7	Ci.	Cu. ESE	-------	
30	38.90	18.4	24.8	14.6	78.8	E quad.	1.5	5	A.-Cu. SE	Cu. ESE	-------	Ω a. ≡° p.
31	38.88	18.2	24.6	14.7	78.8	E	1.7	4.6	Ci.	Cu. E	-------	Ω ≡ a. ≡° p.
Mean	637.71	17.4	23.6	13.7	74.9	----------	2	4.8	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	6.8	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 14.7 meters; gravity correction not applied, —1.61 mm.]

	mm.	°C.	°C.	°C.	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.17	27.1	32.5	22.7	83.8	N quad.	1	7.3	Ci.-S.	Cu.-N. SE	-------	⤹ p.
2	60.46	26.6	31.2	23.1	89	NNW, ESE	1.2	5.8	Ci.-S.	Cu. NNE	-------	
3	59.21	26.6	32.3	22.5	89	Variable	1.2	7	Ci.-S.	Cu. ESE	-------	d° p.
4	58.03	25.9	31.7	22.3	84.3	NE	1.8	5	Ci. SSW	S.-Cu., Cu. NE	-------	
5	58.34	24.8	28.5	22	85.3	N, NNE	3.8	5.3	Ci. E	Cu. NNE	-------	↙° a.
6	59.69	24.2	29.2	19.3	86.7	N, NNE	2.3	4.2	Ci. ESE	Cu. NNE	-------	
7	60.68	24.2	30.1	17.8	75.7	N quad.	1.3	.7	Ci.	Cu.	-------	Ω ≡° a.
8	61.24	25.4	30	19.2	80.3	NE quad.	2	2.5	A.-Cu.	Cu. NE	-------	
9	61.44	25.4	31	20	68.3	N, NE	2.3	2.2	A.-Cu. ESE	Cu. NE	-------	
10	61.74	26.5	31.2	22	60.5	NE	2.5	.3	----------	Cu. NE	-------	
11	61.39	26.4	31.6	21.1	72.5	N quad.	1.5	3.5	A.-Cu. SE	Cu.	-------	
12	61.24	25.6	31.1	21.5	90.8	SW quad.	.8	1.7	Ci.	Cu. SE	-------	≡ a.
13	61.40	26	31.7	21.4	72.3	NE quad.	1	.8	Ci.	Cu. SSW	-------	
14	61.77	24.9	32	20	85.2	N quad.	1.2	.7	Ci.	S.-Cu.	-------	
15	60.93	25.2	29.3	19.8	86.8	Variable	1.5	4	Ci.	S.-Cu., Cu. N	-------	
16	60.64	25.5	30.6	21.3	88.3	NW quad.	1	2	Ci.	Cu. NNE	-------	≡° a.
17	61.41	26.2	31.2	20.2	80.2	Variable	1.3	2	----------	Cu.	-------	
18	59.72	25.7	31.4	20.7	88	NW, NNE	1	2	Ci.	Cu. N	-------	Ω a.
19	58.64	24.9	31	20.5	85.5	N quad.	1	5.8	Ci. S	S.-Cu. NW	-------	Ω a. ⌣ p.
20	59.01	25	31	20.2	85.8	NNE	1.5	2.8	Ci.	Cu.	-------	Ω° a.
21	59.39	24.5	31	19.3	84.2	NNE	1.3	.7	Ci.	Cu.	-------	Ω° a.
22	60.13	24.4	31.5	18.5	80.8	N quad.	1.2	.2	----------	Cu.	-------	≡ a.
23	61.14	25.7	31.5	21.2	72.8	Variable	1.5	1.8	Ci.	Cu.	-------	
24	60.98	25.2	31.4	18.8	74.8	NE quad.	1.7	1.7	A.-Cu.	Cu.	-------	
25	61.36	26.4	33.4	21.2	73.2	N	1.8	5.2	A.-Cu. SE	Cu.	-------	☋ p.
26	61.30	28.4	34.5	23	64.3	NE	1.5	8.7	A.-Cu. SSW	S.-Cu., Cu. SE	-------	d° a. p.
27	60.37	26	30.5	22.6	85	SW quad.	1.3	7.3	A.-Cu. SSW	S.-Cu. SW	-------	d° a.
28	61.92	24.1	29.7	20.2	91.2	N quad.	1.8	3.2	A.-Cu. S	Cu.-N. NNE	-------	d° a. p.
29	61.45	25.9	31.3	19.8	81.5	W quad.	.7	.5	Ci.	Fr.-Cu. NNE	-------	≡° a.
30	61.55	27	32.4	22	79.7	W quad.	.5	.7	Ci.	Cu.	-------	
31	61.71	25.8	30.5	21.3	86.3	NE	1.5	1.2	A.-Cu.	S.-Cu. NE	-------	Ω ≡ a.
Mean	760.53	25.7	31.2	20.8	81	----------	1.5	3.1	----------	----------	-------	
Total	-------	-------	-------	-------	-------	----------	-------	-------	----------	----------	-------	

[a] The barometric readings of this station are not reduced to sea level.

Meteorological data for first and second class stations—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean)	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.65	24.4	32	20.4	89	SW	0.2	5.7	Ci., Ci.-S.	Cu.-N. SE		d a.
2	61.13	24.4	32	20	87.7	NE	.2	2.5	Ci.	Cu. SW		Ω² a.
3	60.23	24.3	30	20.6	91.7	NW	.7	7	A.-Cu. ESE	Cu. SE, N		Ω² ≡² a. d p.
4	59.06	23.6	27.5	21.5	90.7	NW	2.2	7.5	Ci.-S., Ci.	Cu.-N. N	4.6	Ω° d p a.
5	58.03	23.6	26.6	22	90.7	NW	2.7	9.7		Cu.-N. N	4.1	p d a.
6	60.55	22.6	27.1	19.6	90.5	NW quad.	1.3	7.8		Cu.-N. N, NW		●° a.
7	62.72	21.6	28.6	17.7	88.8	NW	1	1.7		Cu. N		Ω² a. p.
8	62.96	20.8	27.7	16.7	87.7	NE, N	.5	4.7		S.-Cu. NE	3.3	Ω² ≡° a.
9	64.22	22.2	27	19.4	84.7	NE quad.	1	7.3	A.-Cu.	Cu.-N. N		●° a. Ω² p.
10	65.09	22.3	27.2	20.5	88.2	NE quad.	2.2	6.8		S.-Cu. N		Ω² a.
11	64.42	22.5	26.5	19.5	92.2	Calm	0	8.8		S.-Cu. NE	8.4	Ω² a. d ●° p.
12	63.97	23.5	27.6	20.4	94.7	N	.2	7.5		N. N		● a.
13	63.76	23.4	31	18.7	89.5	SE, N	.3	5.7		Cu. S, E		Ω² ≡² a.
14	63.14	24.4	32.5	19.1	81.3	S	.3	.8		Fr.-Cu. SE		Ω² a.
15	62.16	24.5	31	20.5	86.5	NW	.5	5.3	Ci.	Cu.-N. NE	4.6	Ω² a. ●° d p.
16	62.35	24	30.5	19.7	86	Calm	0	5.7	A.-Cu. S	S.-Cu. SE		≡ Ω² a.
17	62	23.4	31	18.2	83.8	SE	.7	5.3		cu., cu.-N. variable		Ω² a.
18	60.84	24.7	31.8	20	82.2	N	.2	6.2	Ci.-S.	S.-Cu. SW		Ω² a. ◡² p.
19	60.10	22.5	27.3	19.1	92	N quad.	1	8.3	Ci.-S.	S.-Cu., N. N	6.1	Ω² a. ●° p.
20	60.54	23.8	29	21	90.3	NW	1.7	7	Ci.-S.	Cu.-N. N		d² a.
21	60.44	23.8	30.1	20.5	86.8	N	.7	5.3		Variable N		◠ a. Ω² a. p.
22	61.36	23	30.1	18.5	82.3	N	.8	5		s.-cu., fr.-cu. NE quad.		Ω² a.
23	63.05	23.5	30	19.8	83.7	SE, NE	.5	5.7	Ci.	Variable NW, SE		Ω² a.
24	63.64	22.6	28.3	19.9	88.5	NE, N	1.3	8.2		S.-Cu. E		Ω° a. d p.
25	64.85	22.1	27.1	20	93.7	N quad.	.8	9.3		N. N	11.7	d a. ● a. p.
26	64.18	21.9	23.7	20.7	98.7	NW	.8	10		N. NW, N	138.9	●² a. p.
27	62.70	23.9	29	20.7	90.3	NW	.2	8.7	A.-Cu. E	Cu.-N. ENE		●² a. d p.
28	62.14	24.3	30.1	20.7	87.5	NW	.8	4.5	Ci.	S.-Cu. NW		Ω² a.
29	64.01	22.8	26	20.6	91.8	NW	1.7	9		N. N		d a. p.
30	64.31	23	26.7	20.5	90.5	NW	2	7.8		S.-Cu. N	1.5	Ω a. d p.
31	64.07	23.1	28.1	21	93	NW	1.3	9.2		Cu.-N. N	18.1	● a. p. d² p.
Mean	762.34	23.2	28.8	19.9	88.9		0.9	6.6				
Total											201.3	

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	760.37	24.1	29.4	20.5	86.5	S	1.	8.	Ci., A.-Cu. E	S.-Cu. SE		◠ ⌄ p.
2	61.10	24.9	30	21.2	83.7	SE quad.	.7	1.7	Ci.	S.-Cu.		Ω a.
3	60.52	24.3	28.5	21.5	88.3	NE, E	1.2	8	Ci. S	S.-Cu. NE	9.9	Ω a. ●° p.
4	59.46	24.7	26.9	22	82	NE	2.8	10		S.-Cu., N. NE	8.3	●° a. p.
5	58.52	24	25.5	22.5	84.2	N quad.	4.7	9.7		S.-Cu., Cu.-N. N	5.9	● a. p.
6	60.59	24.6	27.9	22.6	72.5	NE	2.5	7.7		S.-Cu., Cu.-N. NE		● ◠ a.
7	62.70	24.2	28	20.3	65.3	NE	1.7	5.8	A.-Cu. SW	Cu.-N. NE	3.5	
8	63.01	22.6	26.5	19.4	82.5	NE	1.8	6.7		Cu.-N. NE	9.3	● a. p
9	64.31	24.2	27.2	21.2	71.7	E	3.5	7.7		Cu.-N. E	22.4	● a. p.
10	65.55	23.?	25.9	21.2	75.3	ENE	4.3	8.5	A.-Cu. S	S.-Cu. E		● a.
11	64.43	23.4	27.1	19.5	85.7	E, ENE	1.5	6.8	A.-Cu. SE	S.-Cu. E	3.3	Ω a. ● p.
12	63.85	23.9	27	21.4	90	E	1.8	6.2	A.-Cu. SE	S.-Cu. E	3.4	◠ a. ●° a. p.
13	63.58	23.4	28.5	17.8	84.3	E	.7	0				Ω² ≡° a.
14	62.66	24.2	30	20	81	SE	1	0				Ω a.
15	62.08	24.8	29	21.2	84.5	NE	1	2.2		S.-Cu. NE		Ω a.
16	62.04	24.2	28.7	21.6	85.5	E	1	5.3		S.-Cu., Cu.-N. E	6.4	● a. p.
17	61.49	24.1	28.1	20.7	82.5	SE, E	1	4.5		S.-Cu. E		
18	60.80	24.6	28.9	20.8	82	SE quad.	1.3	1.2	Ci.	S.-Cu.		Ω a.
19	60.12	24.3	27.7	20.5	84.2	NE	1.7	9.2	Ci.-S. NE	S.-Cu., Cu.-N. NE	3	●° p.
20	60.73	24.9	28.2	23.1	79.8	NE	1.8	9		S.-Cu. NE		●° a.
21	60.50	25.1	28.5	22.5	75	NE	1	1.8		Cu.-N.	.5	
22	61.54	23.6	27.5	20.6	81.7	NE, E	1.3	3		Cu.-N. NE		●° a.
23	63.03	23.7	28.5	20.4	76.8	SE, E	1.3	3.7	A.-Cu.	S.-Cu. E	3.6	
24	63.87	23.9	27.2	21.4	77.7	E quad.	2.7	8.7		Cu.-N. E	16.6	● a. p.
25	65	22.3	24	20.9	88.3	E quad.	2.8	10		N., S.-Cu. NE quad.	20.4	● a. p.
26	64.64	22.6	24.5	20.6	91.5	E	2.2	10		N. E	134.1	●° a. ●² p.
27	62.59	23.4	26.3	21.6	91.5	E	1.8	10		S.-Cu. E	20.6	●² a.
28	62.22	23.8	28.5	21.1	87.8	SE, N	1.7	4.2		S.-Cu. N	2.3	Ω a. ●° p.
29	64.42	22.4	24	21.2	90.2	ENE	2.7	10		N. NE	7.8	●° a. p.
30	64.63	22.8	25.5	20.6	88.2	E	2.3	10		S.-Cu. E	4	●° ◠ a.
31	64.53?	24.4	27.5	22.2	85.7	NE	2.3	9.5	A.-Cu. S	S.-Cu. E	24.9	●° a. ● p.
Mean	762.42	23.9	27.5	21	82.8		1.9	6.4				
Total											310.2	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.8	20.5	92	72	10	8	4.8	● ⊕ a.
2	31.9	22.1	92	73	7	7	1.8	☊ a. d° ●° p.
3	31.2	23.3	83	76	9	9	11.3	● a. ◯ p² p.
4	30.6	24.2	83	83	9	10	9.6	p² a. p. ◠² p.
5	31.9	22.6	94	74	10	3	3.3	p² ◠² a. ●° a. p.
6	32	21.9	95	70	8	9	------	☊ ≡° ◯² a. ◠² p.
7	32.5	22	94	75	3	7	------	☊ ◯° a.
8	31.6	23.2	84	73	7	7	1.3	◠ a. ◯° ●° p.
9	32.4	23.6	88	70	2	3	------	≤ p.
10	32.4	23.6	92	72	8	5	------	
11	32.2	21.9	92	78	1	4	1.1	p p.
12	32.9	22.4	95	77	9	9	------	◠² a.
13	32.3	22.2	95	86	8	8	23.8	☊° ≡° a. ● p.
14	32.6	22	96	69	10	3	.8	☊ ≡° ◯ a. ●° p.
15	31	22.3	96	78	4	5	1.4	● p.
16	32.4	21.8	91	75	6	7	1.1	☊◡ a. ◯° ●° p.
17	30.2	22.6	96	83	9	6	17.4	● ⊤ a. p.
18	31.4	21.7	97	73	7	5	------	☊² ≡° d° a.
19	31.5	21.2	96	71	3	3	------	☊ a.
20	31.3	21.7	84	64	1	1	------	
21	31.9	19.8	95	72	2	7	------	☊² a. ◯² p.
22	32	22.2	94	79	6	7	14	⊤ ● p.
23	30.4	21.5	95	87	9	10	1	☊ a. ⊤ ●° ◡ p.
24	32.6	22.3	96	87	7	9	------	⊤ p.
25	31.1	21.8	96	78	7	8	------	☊ a. ◯° p.
26	30.3	21.2	94	89	9	10	3.9	☊° a. ●° p.
27	30.9	21.5	93	78	10	7	1.2	◠ d² a. ●° p.
28	32.4	21.8	97	75	5	2	------	
29	31.8	21.5	96	70	1	2	------	☊ a.
30	31.9	22.4	95	70	8	4	------	
31	31	22.4	95	82	10	9	12.7	≤ ● p.
Mean	31.7	22.1	92.9	76.1	6.6	6.3	------	
Total	------	------	------	------	------	------	110.5	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.1	23.3	94	83	2	10	------	☊ a.
2	30.1	22.6	93	72	2	5	------	☊ a.
3	30.8	23.1	96	76	10	10	0.5	☊ a.
4	29.8	22.6	97	80	10	5	7.1	p a. ● p.
5	30.6	21.9?	92	81	9	10	.8	●° a. d p.
6	31.3	22.1	96	79	3	4	------	☊ a.
7	31.8	22	89	76	2	9	------	☊ a. p° p.
8	32.8	21.5?	88	65	2	4	------	☊ a.
9	33.6	21.1?	85	67	2	2	------	☊ a.
10	33.2	21.1	96	65	9	6	------	☊ a.
11	32.6	22.1	96	78	2	4	1.5	☊ a. ⌒ ● p.
12	31.3	22.4	95	69	1	9	------	☊ a.
13	33.6	22.6	97	69	3	5	------	☊ a.
14	32.6	23.1	95	65	9	6	------	☊ a.
15	33.8	22.6	93	70	9	5	1	☊ a. ⌐◹ ●° p.
16	33.6	21.6	96	70	0	4	6.6	☊ a. ⌐◹ ● p.
17	33.3	22	96	64	9	4	------	☊ a.
18	32.8	21.9	97	62	2	3	------	☊ a.
19	32.5	20.9	96	60	2	2	------	☊ a.
20	32.1	18.2	98	73	0	3	------	☊ a.
21	33.4	18.6	93	53	0	3	------	☊² a.
22	33	22.9	96	79	9	4	8.9	☊° a. ⌐◹ p.
23	30.4	23.1	97	69	10	3	------	● a.
24	33.1	22.6	90	63	0	4	------	☊ a.
25	33.1	21.9	96	65	1	4	------	☊ a.
26	33.4	22.1	96	71	9	5	3.3	☊ a. ● ⊤° p.
27	33.8	21.8	96	70	8	4	------	d ⊤ a.
28	33.9	22.1	96	71	9	4	------	☊ a.
29	34	21.1	95	62	1	3	3.3	☊ a.
30	33	22.1	90	58	10	4	------	d ● a.
31	34.2	22.1	96	59	10	7	------	☊ a.
Mean	32.6	21.9	94.4	69.3	5	5	------	
Total	------	------	------	------	------	------	33	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6. a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.4	23	91	72	4	9	3.8	● a.
2	30.6	22.1	92	70	3	9	1.8	● p° p.
3	30.5	21.5	97	74	10	9	------	d° p.
4	29.1	22	88	77	8	8	.3	◠ a. ●° p.
5	28.6	22.8	86	77	4	8	9.1	◠ ● a.
6	30.5	22	87	70	6	10	------	d p.
7	31.1	21.9	89	83	1	9	4.3	☊ a. ● p.
8	31.4	22	90	73	7	8	------	
9	31.9	21.4	87	69	4	5	.3	
10	31.5	23	97	72	10	5	------	●° a.
11	31.2	22.8	92	62	7	4	15.7	d a.
12	31.5	22.8	96	79	4	8	------	● ≡° a.
13	31.9	22.7	91	69	5	3	------	
14	30	23.3	86	75	7	9	.3	
15	31.7	22.6	91	70	3	7	2	⌐◹ d² a.
16	32	23.2	97	55	3	6	42.7	⌐◹ ● ≡° a. ⌐◹² ●² p.
17	31	22.4	96	77	7	6	------	p° a.
18	30.8	22.4	91	69	7	6	------	
19	30.4	22	87	73	1	9	------	
20	31.4	20.5	81	68	1	2	------	≡° a.
21	30.7	21.4	76	72	1	9	------	
22	31.4	23	84	68	7	8	------	
23	30.3	23.2	95	79	10	10	2.8	⌐◹ d ● a.
24	32	22.3	86	62	9	9	------	
25	31	22.5	87	72	6	7	------	
26	30.5	23	89	79	9	10	3.6	● p.
27	31.5	22.5	95	76	9	7	------	
28	31.6	22.5	85	68	9	5	------	
29	31.1	22.9	85	71	8	7	------	
30	32	23	83	70	5	4	------	
31	30.5	23.8	81	75	10	8	------	≤ p.
Mean	30.9	22.5	89	71.8	6	7.2	------	
Total	------	------	------	------	------	------	86.7	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.5	21	95	79	10	8	------	
2	31	20.9	96	65	6	6	------	
3	31.7	21.1	96	70	5	8	------	
4	33.4	21	99	68	6	5	------	
5	33	20.8	96	70	5	6	------	
6	31.5	21.9	96	66	6	6	6.4	● p.
7	33.8	21.1	96	72	5	6	6.6	● ⊤² ≤ p.
8	32.3	21.9	96	65	7	6	------	
9	31.7	21.5	96	66	5	6	------	
10	30.7	21.6	93	74	7	7	23.1	d ● p.
11	28	21.1	96	76	8	8	------	
12	29.7	22.3	96	78	9	9	------	
13	32.2	21.3	97	74	5	6	------	
14	33.7	21.2	96	71	5	8	------	
15	30.2	21.8	98	72	7	8	------	
16	30.2	22.4	96	77	8	5	53.3	●² p.
17	32.8	21.9	96	62	6	5	------	
18	31.7	21.8	93	64	6	5	------	
19	31.5	19	95	59	6	5	------	
20	31.7	19	96	62	6	5	------	
21	32.2	21.3	96	71	5	8	------	
22	31	23	91	73	9	8	------	
23	33.1	21.5	91	67	6	6	------	
24	32.5	21.2	94	72	5	6	------	
25	31	20.5	96	72	7	6	------	
26	29.2	22.5	96	85	9	9	------	d° a. p.
27	31.3	21.4	95	75	9	7	------	
28	32.7	20.3	95	58	6	5	------	
29	33.7	21	95	65	5	8	------	
30	29	21.4	94	90	6	9	------	d p.
31	30.2	21.3	98	71	6	5	------	
Mean	31.5	21.3	95.5	70.6	6.5	6.6	------	
Total	------	------	------	------	------	------	89.4	

Meteorological data for third and fourth class stations—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	28.9	21.3	96	74	10	9	------	☾ p.
2	32.5	22.2	97	62	5	5	------	♎ a. ☾ p.
3	31.1	22.2	94	69	9	8	1.8	☉ a.
4	31.2	22.4	94	63	4	5	------	♑ a.
5	32.1	22.5	92	60	8	5	------	♎ a. ● p.
6	33.4	21.9	91	64	3	6	6.4	☾ p.
7	33.2	22.4	96	65	6	7	------	♎° a. ☿ p.
8	33.4	22.3	91	68	9	7	------	♎° a. ● p. ☐² p.
9	33.5	22.9	91	59	8	9	1.3	♎ a.
10	33	21.8	95	68	8	9	1	☽² a. ● p.
11	32	22.1	95	68	9	8	------	♎ a. ☽ p.
12	33.2	22.6	93	64	8	9	------	♎ a. ☽ p.
13	33.5	22.5	91	59	3	7	1	♎ a. ☽² ● p.
14	33.5	23	91	60	8	9	12.7	● p.
15	33.6	22.6	93	61	9	7	10.2	☿ ● p.
16	33	22.5	92	68	4	8	11.4	☐³ ● p.
17	33.6	22.9	94	56	9	3	------	♈ ♒ p.
18	33.1	21.5	92	62	8	7	------	♎ a.
19	32.6	21.2	95	57	4	3	------	♎ a.
20	33.5	19.6	94	57	2	5	------	♎ a. ♎² a. ♈ ♒ p.
21	33.4	21.4	92	65	8	7	------	♎ a. ☿ p.
22	34.2	23.3	94	57	9	6	2.5	♎ a. ☿ ● p.
23	33	22.8	95	56	6	7	------	☾ p.
24	34.2	21.4	87	56	6	6	.8	♎ a. ☉ ☾ p.
25	33.1	21	90	60	3	8	------	♎ a. ☿ p.
26	33.5	23	88	61	9	8	------	♎ ☽ ♈ ♒ p.
27	33	22.5	92	65	8	9	------	♎° a.
28	33.6	21	91	56	6	6	------	♎² a.
29	34.1	21.1	88	53	4	7	------	♎ a.
30	33.6	22.1	90	63	8	9	------	♎° a.
31	34.3	23	91	56	8	7	10.2	☽ ● ☐² p.
Mean	33	22.1	92.4	61.7	6.7	7	------	
Total	------	------	------	------	------	------	59.3	

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	29.7	22.2	91	73	9	9	------	♎ a. p.
2	29.6	21	91	74	8	8	------	♌° a.
3	29.4	21.8	91	83	7	8	------	♌ ☌° a.
4	29	21.2	94	70	9	9	------	♌° a.
5	30.4	20.4	90	67	4	3	------	♌² a.
6	30.6	20.2	87	67	3	2	------	♌² a. ☾° p.
7	31.3	21.2	89	63	3	2	------	♌° a. ☾ a. p.
8	30.6	22	91	68	3	2	------	♌ a.
9	29.4	21.6	90	75	7	8	------	♌° a. ☌° ☾° p.
10	29.7	21.5	91	78	6	8	------	♌° a. ☿° ☾° p.
11	30.9	21.8	92	65	6	7	1.8	♌° a. ☾° p.
12	26.6	21.8	96	84	8	10	------	☌° ☻° a.
13	30.7	20.7	94	68	3	7	1.3	♌² a. ☌° ☾ ☻° p.
14	29.4	22.3	93	78	3	8	1	☻° ☾ p.
15	30	21.9	94	74	6	5	------	
16	30.7	23.3	94	69	6	7	------	♌ a. ☌° ☾° p.
17	31.4	22.1	94	66	3	6	------	♌ a.
18	29.4	21.9	88	64	10	9	------	♌° a.
19	30.4	17.4	76	50	2	2	------	♌° a.
20	30	17.5	86	64	3	4	------	♌° a. ☾° p.
21	29.9	21	88	74	3	9	------	♌° a.
22	31.1	23.5	91	69	10	6	------	♌° a. ☾ ☩° p.
23	30.6	22	87	72	8	8	------	♌° a.
24	30.8	21.3	92	66	5	7	------	♌° a.
25	30	20.9	89	72	6	10	1.5	♌° a. ☿ ☻° ☾° p.
26	30.4	21.4	95	60	4	6	------	♌° a.
27	32.3	23.2	90	53	5	6	------	♌° a.
28	30.2	19	82	63	3	6	------	♌° a.
29	30.9	19.6	89	71	2	8	------	♌° a.
30	31.6	20.3	82	62	3	8	------	♌° a. ☌° p.
31	31.4	23	88	66	6	7	------	♌° a. ☾° p.
Mean	30.3	21.3	89.8	68.6	5.3	6.6	------	
Total	------	------	------	------	------	------	5.6	

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	30.1	22.5	97	71	9	9	3.3	♌² ☰° ● a.
2	31.3	22.8	97	68	7	8	------	☾ a. ◯ p.
3	32.7	22.7	97	70	7	6	3.8	♌° ☰° a.
4	32.5	23.2	96	75	8	9	------	☻° ☾ a.
5	32.9	21.4	97	73	7	5	------	♌² ☰° a.
6	33.1	21.8	96	72	6	5	------	♌² ☰° a. ☾ p.
7	28.2	22.3	96	92	6	10	13.2	♌ ☰° a. ● a. p.
8	30.2	23.2	97	65	9	6	------	♌° ☰° a.
9	32.3	23.5	91	64	8	6	17	☻° a. ● ☾ p.
10	29.2	24.7	91	80	9	10	6.3	☾ a. ● a. p.
11	30.4	24.5	86	73	8	9	1.3	☾ a.
12	29.9	24.5	88	81	9	10	7.9	● a. ☾² p.
13	31.7	26.2	93	73	9	8	2.5	☾² ☾² a.
14	32	25.4	94	69	9	10	3.8	☌° a. ☾ ● p.
15	31.5	25	93	74	9	8	5.6	☾ ● ☾ a.
16	30.6	25.1	87	76	7	9	------	☌° a. ☿° p.
17	32	25.6	88	78	10	5	4.6	☌° a.
18	31.9	23.8	92	68	9	7	------	● ☾ a.
19	32.1	19.2	96	64	7	4	------	♌² ☰° a.
20	33	20.2	97	68	5	5	------	♌² ☰° a.
21	32.8	21.8	96	75	4	9	26	♌ ☰° ● a. ♈ p.
22	31.3	24	97	79	10	7	14.7	● a. ♈ p.
23	31.5	24.7	79	70	9	7	49.3	☾ ● a. ☻² p.
24	31.3	24.5	95	72	10	8	------	☾ a.
25	------	25	86	76	9	7	18.1	☾ a. ☻ a. p. ☿° p.
26	------	------	------	------	------	------	------	
27	32	24.1	------	69	------	4	------	☾ ☾ p.
28	31.8	22.4	95	68	7	5	------	
29	31.4	24.3	85	76	7	8	------	☌° a. p. ☾ p.
30	32	24.9	87	74	7	7	------	
31	29.8	25.4	88	88	10	10	------	☾ ☾ p.
Mean	31.4	23.6	92.3	73.4	8	7.4	------	
Total	------	------	------	------	------	------	177.4[1]	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	27.5	22.9	97	77	8	9	2.8	☻° a. ● ☿² p.
2	27.6	21.5	96	79	6	6	.8	☰° ♌ ² a. p° p.
3	27.6	22.6	93	80	10	7	.5	☻° ☌° ♐° a.
4	28.2	22	96	70	9	6	------	♌ p° a. ♐° ☾ p.
5	28.2	20.6	96	70	5	1	------	☰° ♌² a.
6	29	19	96	61	2	2	------	♌² a. ☾ p.
7	28.6	21.2	94	74	3	7	------	♌ a. ☾ p.
8	27.7	21.7	96	73	3	9	------	♌ a.
9	27.5	21.6	96	81	4	7	.5	♌ ☰° p° a. ☻° p.
10	28	23.4	96	84	9	8	2.3	☻° ♌ ☰° a. ● p.
11	28.3	22.8	96	83	7	9	8.4	☌ ♌ a. p° ● p.
12	25.1	22.5	97	91	10	10	2.5	● ☌° p.
13	28.8	22.6	97	91	8	10	12	☌° p° a. ● a. p.
14	27.4	22.2	98	92	7	10	16	♌ ☻° a. ☿ ● p.
15	28	22.6	97	74	6	6	------	♌ a.
16	27	23.6	96	87	10	9	20.1	● a. p. p° p.
17	28.1	22.2	95	73	2	6	------	♌ a.
18	26.5	22	96	69	8	9	------	♌² ⊕ a.
19	27.5	18.4	95	66	0	2	------	♌² a.
20	27.8	20.2	95	75	2	2	------	♌² a.
21	28.6	22	96	79	3	9	.8	♌ a. ☌° ☻° p.
22	29.2	23	96	70	8	7	5.3	♌ a. ● p° ☿ p.
23	27.7	23.2	91	80	10	7	.8	☻° a. p.
24	29	22.7	95	73	3	5	5.8	♌ p° a. ● p.
25	27.7	21.1	92	84	9	8	7.1	☻° a. ● p.
26	29.1	22.1	96	68	7	6	6.6	♌² a. p ● p.
27	29.3	22.2	94	59	4	1	------	♌2 a.
28	29.3	21.4	91	69	7	2	------	♌ a.
29	27.1	21.8	93	84	6	7	1.8	♌ a. ☻° a. p.
30	27.8	21.4	96	80	4	6	4.1	♌ a. ● p.
31	29.1	22.8	94	73	8	6	2.3	♌² ☿ a. ☻° a. p.
Mean	28	21.9	95.2	76.4	6.1	6.4	------	
Total	------	------	------	------	------	------	100.5	

[1] 30 days of observation.

Meteorological data for third and fourth class stations—Continued.

DUMAGUETE.

[ϕ=9° 18′ N; λ=123° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.5	22.2	90	78	10	8	1.5	⊏◹ ● a.
2	30.2	22.3	91	68	6	6	------	☋ ☊ a. ○° d° p.
3	30.5	23.6	88	71	8	9	------	☊ a. ○ a. p.
4	31.5	21.6	86	59	8	10	------	☋° ☊ a. ○² p.
5	31	21.2	80	72	7	2	------	☊² a.
6	30.6	22.2	81	70	6	4	2	☊° a.
7	29.4	23	91	74	8	9	------	●° a. d° p.
8	29.6	24	85	65	7	4	------	☊° a.
9	29.8	23.2	86	80	9	9	3.6	☊ d° a. d ●° ◟ p.
10	29.5	23.6	87	83	9	10	------	☊ d° a.
11	29.1	24.7	88	75	8	4	------	d° ☊° a. ⊕ p.
12	29.3	24.4	86	70	9	9	------	d° a.
13	29.3	24.8	87	79	8	9	2.5	d° a. ●° ◟° p.
14	30.2	24.9	88	77	7	9	------	●° d° a. ◟° p.
15	30.1	25.6	81	74	8	7	------	d° a.
16	29.1	23.4	79	70	7	9	------	☊ a. d° p.
17	30	24.4	82	71	9	7	4.1	
18	29.3	24	90	69	7	10	------	● a. ○² ☋ p.
19	30.4	21	78	60	6	3	------	☊ a.
20	29.9	21.6	89	68	5	5	------	☊ a. ⊏◹ p.
21	30.3	23.5	91	79	5	6	1.3	☊ a.
22	30.5	24.5	91	76	8	8	------	●° a. ☋° d° p.
23	28.5	23.9	91	80	10	10	25.9	d° ◟ a. ● a. p.
24	29	22	87	77	4	9	.5	⊏◹ ●° a.
25	28.6	25	80	78	4	9	4.6	●° d a. ● p.
26	28.6	24.5	78	73	10	6	2.5	d a. p.
27	29.6	24	90	74	9	4	------	●° a.
28	30	23.5	86	61	5	6	------	☊ a.
29	29.2	24.5	86	79	7	8	.8	☊ a. d ●° p.
30	29.6	23.8	78	69	5	8	.9	d a.
31	29.9	24.6	76	84	9	8	------	d☋ a. p.
Mean	29.7	23.5	85.4	73	7.4	7.3	------	
Total	------	------	------	------	------	------	50.2	

YAP (WESTERN CAROLINES).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.3	25.2	82	75	10	10	15.5	d ● p.
2	27.3	----	95	83	10	10	49	●² a. d ●° p.
3	31.2	23.8	87	77	4	10	7.9	● p.
4	31.8	23.5	91	74	10	4	.3	●° d a.
5	30.7	24	92	81	7	4	3.6	☊ a. d ● p.
6	32.2	23.9	89	71	10	9	3	
7	31.5	23.1	95	91	10	10	36.3	● a. p.
8	31.3	23.1	91	72	10	7	2.8	● a. p² ●° ◠ p.
9	30.6	23.4	91	81	10	9	1	●° d² a. ◠ p.
10	30.7	24.3	91	93	10	10	2.1	●° a. d p.
11	30.7	23.4	88	70	10	10	.5	●° a.
12	30.5	23.9	90	84	10	8	4.3	●° a.
13	30.4	23.9	92	75	10	8	10.6	● ◟° a. d° p.
14	30.6	23.7	92	75	9	8	1	● a.
15	30.4	25.5	83	78	7	9	12.2	p ● p.
16	30.7	23.5	83	66	4	8	------	● a.
17	31.6	25.4	86	77	9	10	------	○° a.
18	31.2	25.9	82	78	4	7	2.5	
19	30.3	24.4	94	77	10	10	.3	● d a. d ☋° p.
20	29.8	25	85	78	10	10	------	
21	30.7	25	87	75	8	10	2	●° d² p² ☋ p.
22	30.1	24.9	80	70	8	10	.3	d a. ☋ p.
23	29.9	24.3	82	63	10	9	2.5	d° a. d² ●° ⊽ ☋ p.
24	29.7	23	87	74	10	10	1.3	● a. ☋ p.
25	30.7	24.6	76	79	10	10	------	☋ a. d° p.
26	30.2	24.4	75	69	3	7	------	d° p.
27	31.2	23.5	79	67	9	3	7.9	● p.
28	30.1	22.4	87	67	10	4	1.6	● d ◠ a. d p.
29	30.4	23.9	90	79	10	10	3	● d° a. d p.
30	30.4	22.4	88	75	10	7	1.8	● a.
31	31.1	25	86	78	9	8	2.8	● a.
Mean	30.7	24.1	87	75.9	8.7	8.4	------	
Total	------	------	------	------	------	------	176.1	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.5	23.6	90	82	10	10	17.8	d a. ● p.
2	30.5	22.6	90	78	10	10	9.7	d ● p.
3	30.5	22.6	91	84	10	10	------	d p.
4	29.5	22.6	93	70	10	10	------	
5	29.6	22.5	87	81	10	5	------	d p.
6	29.6	22.6	90	87	10	10	------	
7	30.1	22.5	86	78	10	10	35.6	d ● ◟ p.
8	30.1	23.5	79	73	10	10	------	
9	27.6	23.9	85	83	10	10	16.5	d a. p. ● ⊤ p.
10	29.5	23	88	86	10	10	22.6	● d a. p. ◠ ◟ p.
11	30	23.8	91	67	10	10	------	☋ p.
12	30.8	23.8	82	73	10	10	------	⊽ ☋ p.
13	31	23	87	76	10	10	5.3	◠² a. d² a. p. ⊤ p.
14	30.7	23.6	93	84	10	10	31.2	◠ d² a. ● d ◟ p.
15	30.6	23.8	84	76	10	5	------	
16	30.5	22.5	93	64	10	10	------	☋° p.
17	30.5	22.4	91	85	10	10	------	
18	29.2	21.7	91	64	10	10	------	
19	29.6	22.3	91	73	10	10	------	⊽ ☋ p.
20	29	23.2	90	80	8	8	------	☋ p.
21	29.1	23.2	91	75	10	8	------	
22	30.4	23.9	88	82	10	7	------	◠ d° a. p.
23	30.7	24.2	88	87	10	10	18.6	● a. p. d ◠ ⊏◹² p.
24	30.6	22.6	90	77	10	10	6.1	● ⊤ d a.
25	29.4	22.8	93	80	10	10	30.3	d a. ● a. p.
26	29.6	22.8	93	80	10	10	------	d a.
27	30	23.6	88	81	10	8	------	
28	30.5	22.8	93	75	10	10	------	
29	30	23	88	80	8	8	5.3	d ● a.
30	29.9	22.6	90	71	10	5	------	d ⊤° a. d° ⊏◹ p.
31	30	22.6	91	80	10	10	------	⊤° a. d a. p. ◟ p.
Mean	30	23	89.2	77.8	9.9	9.2	------	
Total	------	------	------	------	------	------	199	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.3	22.5	88	84	10	10	------	d² p.
2	30.8	21.6	95	69	9	5	------	☊² a.
3	30.7	21	91	72	10	8	1.3	☊² a. ⊕ p.
4	29.9	22.5	94	71	8	10	------	●° a.
5	31.3	21.1	91	71	9	9	------	☊² a.
6	30.9	21	95	74	0	10	------	☊2 a.
7	31.7	22	94	66	1	6	1.8	☊2 a. ● p.
8	30.9	20.1	95	60	3	3	------	
9	31.3	20	94	62	1	8	------	☊2 a. ◟ p.
10	30.4	22.6	94	87	6	10	1.3	☊2 a. ● ⊤ p.
11	31.7	21.8	95	60	4	7	------	
12	32.3	23	88	63	10	8	------	
13	32.1	21.7	96	70	8	8	------	☊2 a. -
14	31.9	21.8	93	67	9	5	------	☊2 d² a. d° ◟ p.
15	31.8	22	94	67	3	3	------	☊² a.
16	31.8	20.6	93	58	1	6	------	☊2 a.
17	31.8	21.4	91	60	4	3	------	☊2 a.
18	30.9	22.1	91	66	7	9	------	☊2 a. ⊕ p.
19	30.9	19.5	88	52	8	1	------	☊° a.
20	31	20.5	91	68	6	10	------	☊2 a.
21	31.3	22.5	92	72	7	10	.5	☊ᶜ a. d ●° ◟ p.
22	32.2	22.2	93	68	10	10	11.2	d ● ⊤ ◟ p.
23	30.9	23	97	70	10	10	------	d° a.
24	30.8	21.4	95	63	6	4	------	☊2 a.
25	31.3	22	91	77	7	7	.3	☊° a. ●° d° p.
26	31.9	20.5	92	61	3	6	------	☊2 a. ◟ p.
27	31.8	21.4	91	63	8	7	------	☊² a.
28	31.4	21	92	68	3	1	------	☊2 a.
29	31.8	21.1	91	71	0	8	------	☊° a. ◟ p.
30	32	20	87	62	0	4	------	☊ d a.
31	30.9	20.5	87	76	1	10	------	☊2 a. ⊤ ◟ p.
Mean	31.3	21.4	92.2	67.7	5.5	7	------	
Total	------	------	------	------	------	------	16.4	

Meteorological data for third and fourth class stations—Continued.

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.7	24.1	95	76	10	9	------	☊ a. ☐ p.
2	29.6	22.8	95	78	9	9	------	☊ a. ◯ ☐ p.
3	29.7	25.6	85	74	10	9	------	☊ a. ☾ p.
4	30.1	25	88	76	9	9	------	☊° a. ◯ p.
5	30.6	23.1	95	74	9	9	------	☊ a.
6	29.6	22.1	96	76	9	8	------	☊ a.
7	29.2	24.8	95	72	8	6	------	☊ a.
8	28.6	24.6	75	70	10	10	------	☊ a.
9	28.7	24.9	79	72	9	7	------	☊ a.
10	28.4	25.4	86	78	8	8	------	☊ a.
11	29	25.2	85	72	10	6	------	☊ a.
12	29.4	25.4	82	75	10	4	------	☊ a.
13	29.3	25.4	87	77	9	6	------	☊ a.
14	29.3	25.7	84	79	9	7	------	☊ a.
15	29.6	25.7	83	72	9	7	------	☊ a.
16	29.7	25.5	83	66	9	4	------	☊ a. ☿ p.
17	30	25.5	84	68	9	6	------	☊ a.
18	29.5	25.4	81	74	9	9	------	☊ ◯ a.
19	29.5	24.1	82	70	10	8	------	☊ a.
20	29.8	24.1	85	72	9	8	------	☊ a.
21	29.7	25.8	83	71	9	3	------	☊ a.
22	29.1	25.5	85	75	10	9	0.4	☊ a. ●° p.
23	28.7	24.9	80	73	8	9	------	☊ a. d p.
24	28.6	25.1	85	79	9	7	------	☊ a.
25	29.3	25.1	87	76	10	9	------	☊ a.
26	29.5	25.1	84	75	9	8	------	☊ a.
27	29.7	25.1	89	74	9	8	------	☊ a.
28	29.6	25.5	93	76	9	4	------	☊ a.
29	30.2	25.9	88	75	8	6	------	☊ a.
30	29.7	25.4	84	71	9	7	------	☊ a.
31	29.6	25.6	82	73	8	6	------	☊ a. ☾ p.
Mean	29.5	24.9	86	73.8	9.1	7.3	------	
Total	------	------	------	------	------	------	.4	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.8	21	97	62	8	6	------	≡ a.
2	30.2	20.5	95	71	4	6	1.8	☊ a. ● p.
3	30.9	21.4	96	67	9	9	------	☊ a.
4	30.1	23.5	83	70	9	10	------	☊ a.
5	32.7	22.3	96	54	9	5	------	☊ a.
6	30.8	19.8	98	67	0	5	------	☊ a.
7	30.6	22	92	68	2	8	------	☊ a.
8	30.1	22	88	65	2	6	26.9	☊ a. ●² p.
9	27.1	21.6	97	83	10	9	91.7	●² a. p.
10	28	22.5	97	81	10	10	77.4	●² a. p.
11	29.8	22.1	93	79	8	7	12.5	● a. p.
12	30.3	22.7	88	73	6	10	49.3	●² a. p.
13	27.9	23	94	91	8	10	38.3	● a. p.
14	30.2	24.1	95	76	8	10	3.8	● p.
15	30.4	22.6	96	76	5	8	------	
16	30	23.4	91	69	9	8	2.6	●° a. p.
17	28.2	21.6	96	83	10	10	11.9	☊ a. ● a. p.
18	31.9	19.4	94	73	2	6	------	☊ ◯ a. ☿ p.
19	31.6	19.6	95	76	2	8	9.4	● p.
20	30.7	21.5	97	75	10	9	------	≡ a.
21	30.1	22.3	96	69	9	6	1.3	☊ a. ●° p.
22	30.2	22.4	97	72	7	6	12.9	≡ ●° a. ● p.
23	31	22.5	95	67	10	5	2.8	● a.
24	30.3	23	94	81	8	9	10.5	●° a. ● p.
25	29.5	23	89	73	9	10	4.8	● a. p.
26	30.3	23.8	77	66	8	6	18.5	● a. p.
27	30.3	23.5	92	76	10	4	9.2	● a. p.
28	30.6	23.5	94	77	10	6	16	⊤ a. ● a. p.
29	30.6	21.5	97	72	10	5	7.3	● a. p.
30	30.3	21.6	88	70	10	8	10.9	● a. p.
31	29.6	24.3	93	84	10	10	48	● ⊤ a. p.
Mean	30.1	22.2	93.2	73.1	7.5	7.6	------	
Total	------	------	------	------	------	------	467.8	

MASBATE.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	24.5	97	80	10	9	------	
2	29.6	22.8	98	77	8	9	------	
3	29.4	24.6	93	74	10	9	------	
4	28.2	25	95	79	10	10	------	
5	29.4	25.2	84	75	9	9	------	
6	------	23.4	97	------	10	------	------	
7	30	23.2	91	74	8	8	------	
8	30	24.2	78	65	8	6	------	
9	28	24	80	92	10	10	21.1	
10	25.4	23.8	96	95	10	10	51.3	
11	29.8	23.6	98	75	9	9	2.5	
12	29.6	23.5	91	74	10	6	6.3	
13	28.5	24.4	93	97	9	10	15.3	
14	28.8	24.2	98	83	10	8	------	
15	30.8	24?	97	73	8	6	------	
16	30.5	23.2	91	72	10	9	.5	
17	29.5	23.2	97	79	8	6	.5	
18	28.5	23.2	86?	70	8	7	------	
19	28.6	23.2	96	80	9	8	------	
20	28.6	23.6	95	80	9	7	------	
21	29	24.5	92	77	10	7	.5	
22	26.8	25	96	97	1	10	16	
23	26.8	23.5	88	84	9	9	------	
24	27.5	24.6	93	92	9	10	8.4	
25	27.2	24.2	90	86	8	9	63	
26	29.8	22.4	99	71	10	4	.8	
27	30	23.2	94	83	10	8	.5	
28	29	24.5	97	80	10	4	------	
29	30.5	24.2	98	84	7	9	1.8	
30	29.5	23.6	92	71	10	9	2	
31	29.6	24.4	97	78	10	9	------	
Mean	29	23.9	93.1	79.9	8.9	8.1	------	
Total	------	------	------	------	------	------	190.5	

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.3	22.8	97	71	10	7	------	d° a.
2	32.5	22	97	69	4	9	------	☊ a.
3	31.6	21.8	98	71	8	8	2.3	d p.
4	31.5	22.8	84	63	9	10	------	● a.
5	33.5	23.8	83	63	3	9	------	
6	32.7	22	97	67	3	1	------	☊ a.
7	30.8	22.7	88	67	9	8	1.5	d² a. d° p.
8	31.6	20	85	68	4	7	.5	d° a. d p.
9	32.4	22.9	83	70	8	9	20.3	d a. p.
10	25.8	21.8	96	93	10	10	35.1	● d a. p.
11	32.4	22.2	89	68	9	5	3.8	d° ●° p.
12	31.5	23.4	87	82	6	10	11.4	● d a. p.
13	32.8	23.5	92	83	10	9	11	● d a. p.
14	32.7	22.8	95	75	8	8	------	d° a. p.
15	32.7	24.2	89	76	7	6	------	
16	33	23.6	84	63	7	7	5.8	● d p.
17	33	23.1	92	65	8	1	.3	◠ d° p.
18	32.3	23.4	86	69	7	7	------	d a.
19	31.3	20.3	95	65	1	3	------	☊ a. d° p.
20	29	23	92	95	10	10	14.7	p° a. ● d a. p.
21	32.3	23	97	73	8	6	------	d a. p° p.
22	32.6	23.3	88	68	9	8	3.3	☊ a. ● p,
23	31.1	22.7	88	72	10	8	1.3	d a. p.
24	28.6	22.8	94	84	10	10	32.1	● d a. p.
25	28.3	22.7	93	87	9	10	56.9	d a. p. ●² p.
26	32.2	22.7	91	84	10	8	2	d a. p.
27	31.6	23.7	94	81	8	9	.3	● a. d a. p.
28	31.8	24.5	89	75	9	6	.8	d a.
29	32.5	24.2	92	71	5	2	------	● a. d° p.
30	32.3	23.8	84	71	9	7	.8	d° a. p.
31	33.3	23.9	92	70	8	7	21.6	●° a. ● p.
Mean	31.7	22.9	90.7	73.5	7.6	7.3	------	
Total	------	------	------	------	------	------	225.8	

Meteorological data for third and fourth class stations—Continued.

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	30.2	21.7	97	71	3	5	------	○° p.
2	30.5	20.7	97	87	4	10	5.9	≡° a. ● p.
3	30	22.8	90	80	5	9	2.5	● a. p.
4	29.9	23	87	83	10	10	------	
5	30.5	23.2	90	70	6	6	------	
6	31.2	21.9	98	78	1	2	------	≡° a. ☾° p.
7	31.6	24.4	87	77	4	8	.5	d° p° p.
8	30.7	21.6	98	72	2	4	9.4	◠ ● p.
9	30	22.9	92	91	10	7	35.6	≡° d a. ●² ⌐° p.
10	28.8	22.2	97	92	10	10	56.1	●² a. d p.
11	29.4	22.8	89	80	9	5	13.5	● a. p.
12	29.8	22.8	96	80	8	7	14.7	d a. ● p.
13	30	22.6	93	83	10	9	24.6	d a. ● p° p.
14	29.6	23.9	96	77	9	6	2.5	● a. ●° d ◡° p.
15	29.9	22.2	98	77	7	4	1.5	≡ a.
16	30	23.4	91	80	3	7	.3	●° a. p. p° p.
17	30.2	21.3	97	77	8	9	2	≡° ● a.
18	29.9	20.4	97	77	3	10	------	≡ d° a.
19	30.6	21.8	96	76	4	9	10.7	p° ● d p.
20	30.1	23	98	90	7	7	2.5	p° ● a. ●° p.
21	30.2	24.2	94	78	4	5	31.7	d a. p. ● p.
22	30.8	24	96	91	10	9	135.9	●² d a. p.
23	29.7	22.1	97	82	10	9	18	●² d a. p° p.
24	29	22.7	97	96	4	10	18.8	● a. p. d° ⌐ p.
25	29.3	22.1	95	83	10	9	16.8	● p° a. p.
26	30.2	24.5	93	69	4	5	9.9	● ◠ a. p° p.
27	31.1	23.2	93	81	4	5	33.8	● a. p.
28	30.2	25.5	99	94	10	9	24.9	d ● ⌐ a.
29	29.2	22.1	97	79	3	4	9.9	●° a. p° ● p.
30	29.4	24.5	92	76	2	4	10.9	p a. p.
31	29.8	24.5	94	93	10	10	17.5	d a. ● a. p.
Mean	30.1	22.8	94.5	81.3	6.3	7.2	------	
Total	------	------	------	------	------	------	510.4	

GUBAT.

[ϕ=12° 35′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	28.9	24.2	96	77	7	6	------	●° a.
2	29	21.6	96	74	6	8	------	◡ p.
3	30.5	22.3	97	74	10	10	------	
4	27.4	23.4	93	82	10	10	0.5	
5	30.7	24.7	92	71	10	9	------	d a.
6	30.5	22.4	96	69	7	9	------	
7	29.2	22.9	93	73	9	10	1.5	d p.
8	28.8	19.9	93	77	5	6	2.5	
9	27.2	23.2	94	86	10	8	20.3	d a. ● p.
10	25.9	22.8	93	96	8	10	45.5	● a. p.
11	28.7	23.3	88	84	9	6	2	● a. d p.
12	28.7	23.3	93	88	6	6	4	d a. p ●° p.
13	27.7	24.6	96	89	8	10	6.6	◠ a. ● a. p.
14	28.5	24.4	93	79	7	8	23.1	● a. p.
15	29.1	25.6	88	81	6	8	------	
16	28.5	25	85	74	10	8	2	d p.
17	28.6	23.5	87	79	10	7	------	d a.
18	29.7	21	93	74	8	8	------	⏚ p.
19	30.6	21.9	91	72	6	9	3.3	● p.
20	28.4	23.5	96	88	8	8	18.8	● a. p.
21	30.6	22.5	96	71	6	8	------	
22	25.8	24.1	92	86	8	10	56.9	● p.
23	25.3	21	96	91	10	10	24.7	● a. p.
24	27	23.3	96	96	10	8	16.8	● a. p.
25	27.6	23.1	93	91	10	10	7.6	● a. ●° p.
26	28.7	24	93	75	8	6	------	●° a.
27	29.2	24.3	91	89	6	8	6.6	● p.
28	28.6	23.9	93	92	7	8	24.4	● a. p.
29	28.6	23.4	97	91	7	6	7.4	● a.
30	28.2	23	95	80	8	7	6.1	● a. p.
31	28.5	24.6	92	88	9	8	5.3	d a. ● p.
Mean	28.5	23.2	93.1	81.8	8	8.2	------	
Total	------	------	------	------	------	------	285.9	

SUMAY, GUAM (LADRONE ISLANDS).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	28	24.6	85	77	7	9	76.2	
2	25.6	22.8	97	92	10	10	24.1	
3	29.4	24	89	72	10	7	------	
4	29.2	24.6	84	71	10	5	------	
5	29.2	25	84	70	7	10	3.8	
6	28.8	24.4	87	73	10	8	5.1	
7	29.6	24	92	71	10	7	------	
8	30.6	23.6	84	67	6	10	------	
9	28.6	25.2	84	74	6	5	------	
10	28.8	24.8	84	68	10	6	2.5	
11	29.2	24.4	85	70	10	7	3.8	
12	28.4	23.2	90	71	10	10	3.8	
13	28.2	24	88	70	10	10	1.3	
14	28.6	24.6	84	76	7	10	3.8	
15	29	24.6	84	70	10	10	------	
16	26.2	22	89	97	10	10	76.2	
17	29.4	------	84	75	10	6	5.1	
18	28.8	24.2	92	75	8	7	------	
19	29.2	24	85	66	10	6	------	
20	29.2	23.8	84	65	6	6	------	
21	29.6	24.4	83	64	6	5	1.3	
22	29.8	23	88	68	8	5	3.8	
23	29.2	23	85	63	8	6	------	
24	29	23	83	66	6	6	------	
25	29.2	23	83	68	8	10	------	
26	28.4	24.4	85	71	10	9	3.8	
27	28.6	23.6	84	70	8	10	16.5	
28	28.4	23	86	70	10	7	7.6	
29	29	23.8	83	68	10	6	3.8	
30	29	25.4	87	76	6	10	------	
31	28.4	25	84	73	8	8	1.3	
Mean	28.8	24	86	71.8	8.5	7.8	------	
Total	------	------	------	------	------	------	243.8	

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P.ct.	0–10.	0–10.	mm.	
1	30.4	21.8	97	77	10	8	------	
2	30	21.6	97	75	8	10	------	
3	30.8	20.6	95	68	8	10	------	
4	30.5	21.1	98	73	10	10	------	
5	30.1	21	93	81	10	10	------	
6	30.5	21.5	93	78	10	7	------	d a.
7	29.4	24	87	75	10	10	------	
8	29.1	20.5	94	76	8	10	1.5	●° p.
9	29.7	23.4	80	94	10	10	3.1	●° a. p.
10	27.1	23.5	87	83	10	10	3.7	●° a. p.
11	30.2	23.1	91	93	10	10	2.3?	●° a. p.
12	------	------	------	------	------	------	------	
13	------	------	------	------	------	------	------	
14	------	------	------	------	------	------	------	
15	------	------	------	------	------	------	19.8?	
16	29.9	22.3	96	92	10	10	3	●² a. ●° p.
17	29.7	22.7	92	72	10	4	1	p p.
18	30.7	21.5	96	65	8	8	------	
19	30	19.4	97	68	10	8	------	
20	31	21.1	98	70	8	10	5.6	p² p.
21	30.8	23	99	71	10	7	------	p° a.
22	30.2	21.5	97	72	10	9	------	
23	29.5	22.5	96	70	10	10	5.6	p p.
24	27.7	21.7	97	84	10	10	11.7	● a. d p.
25	28.5	23	96	85	10	10	19.6	●° a. p.
26	27.7	22.6	99	84	10	10	2.6	● a. d p.
27	29.5	22.5	94	75	10	10	16.8	p² d p.
28	29.2	23.4	98	75	10	4	4.8	●° a.
29	29.2	23.7	97	89	10	10	2	● p.
30	29.6	23	96	94	8	10	3	●° p.
31	30.2	23.5	98	80	10	10	2.8	
Mean	29.7	22.2	94.7	78.5	9.6	9.1	------	
Total	------	------	------	------	------	------	[1]108.9?	

[1] 27 days of observation.

Meteorological data for third and fourth class stations—Continued.

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	22	98	65	8	9	------	●° a. ☾ p.
2	29.2	20	98	90	6	10	10.6	♌ ☾ a. ● a. p.
3	30.7	20.8	95	65	10	10	3.3	☽° a.
4	26.5	22.5	95	90	10	10	9.1	●° a. ☄° ● p.
5	29.4	22	94	77	10	10	2.8	● p.
6	31.2	20.1	98	70	4	9	------	d° a.
7	29.6	21.4	96	66	6	10	------	♌ a.
8	28.5	18.8	96	67	4	9	------	♌ ² a. d° a. p. ☽° p.
9	28.2	21.5	79	80	10	9	24.2	● a. p. ☄° p.
10	27.1	22.3	83	90	9	10	16.2	● ☄° a. p.
11	29.5	22.3	82?	64	8	3	8.6	● a. p.
12	30.2	22.5	91	70	9	9	11.7	● ☽° a. d p.
13	30.2	23	84	72	8	9	3.6	● a. d° p.
14	30	23.5	86	75	6	10	6.3	● a.
15	31	20.7	97	76	6	4	------	●° a.
16	31.2	21.8	91	73	4	6	------	♌ ² a. ♉ p.
17	30	20	98	84	4	10	.5	♌ ² a. d a. p.
18	30.3	18.8	97	58	3	10	.3	♌ ² d° a. ☾ p.
19	29.4	22	87	77	10	10	.5	d a. d° ♉° p.
20	28.5	22.4	98	87	9	10	2 4	☽ ●° a. d° ☿ ♉ p.
21	31.1	21.6	98	71	8	9	------	d° ☽ ♌ ♉° p.
22	28.4	23	87	76	9	9	3.3	d° ♉° p.
23	25.5	21.6	80	90	10	10	76.7	● a. p.
24	27.3	22.4	91	84	10	10	28.2	☽ a. ● a. p.
25	28	22.7	88	81	10	10	10.6	☽ ² a. ● a. p. ☄° p.
26	30.4	23	92	72	10	9	11.9	●² a. ☄° a. p. d° p.
27	30.7	23	88	71	7	6	15.7	● a. p.
28	30.9	22.8	93	74	10	9	16.3	● ☿ ° a.
29	30.9	22.7	95	78	9	8	6.8	● a. d° p.
30	30.5	22.3	91	74	10	10	7.3	● a. p² d° p.
31	30.3	23.2	81?	74	5	7	11.9	● a. p.
Mean	29.5	21.8	91.2	75.5	7.8	8.8	------	
Total	------	------	------	------	------	------	288.8	

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33	21.8	99	73	10	9	------	
2	31	19.9	99	73	10	8	------	
3	30.5	21.9	97	68	9	9	0.8	●° p.
4	26.7	21.1	96	75	10	10	------	
5	31.6	21.6	95	69	10	10	------	
6	30.6	21	98	69	7	8	------	
7	28.6	21.7	95	65	9	9	------	
8	28.6	18.3	98	64	8	8	.9	●° a.
9	28.6	20.9	92	88	7	9	10.1	●° p.
10	27	21.7	95	97	10	10	19.6	● a. p.
11	30.2	21.4	91	77	8	8	1	● a.
12	29.5	19.9	92	78	8	9	------	d p.
13	30.3	21.9	91	79	8	9	21.2	● p.
14	30.5	20	98	89	8	10	16.2	● p.
15	30.9	19.4	99	68	7	6	------	p a.
16	31.1	18.7	98	62	4	6	------	
17	30.5	18	95	68	5	8	14.5	● p.
18	29.6	17.2	99	66	9	8	------	
19	30	19.8	98	73	9	8	7.1	●° p.
20	29	22.4	98	81	9	8	2.8	●° ☽ p.
21	29.6	21.8	95	75	7	8	------	
22	29.5	22.1	92	70	8	9	.1	
23	27	22	93	81	10	10	3.8	d a. ●° p.
24	27	21.5	100	78	10	9	28	●° a. ● p.
25	27.5	20.5	96	80	9	10	27.9	●° a. ☽ ● p.
26	30.5	20.4	95	64	9	8	.5	●° p.
27	31	20.5	96	67	8	8	22.3	●° a. ● p.
28	31.4	21	99	82	10	10	------	d p.
29	30.5	21.6	97	82	8	9	2.3	●° p.
30	29	19.3	94	72	3	8	1.1	●° a.
31	30.1	20.6	96	79	8	9	18.8	● p.
Mean	29.7	20.6	96	74.6	8.2	8.6	------	
Total	------	------	------	------	------	------	199	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 13′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	------	97	67	7	7	------	
2	33.7	------	97	70	3	7	------	
3	31	------	98	78	4	9	3.8	●° p.
4	29.2	------	95	77	4	10	------	
5	30	------	89	78	7	8	------	
6	31	------	96	81	6	9	2.3	d p.
7	30.3	------	95	70	5	7	2.5	d p.
8	27.5	------	97	79	3	9	------	
9	29.3	------	96	69	2	9	.8	d p.
10	26.3	20.6	95	74	7	9	.5	d a.
11	28.6	20.4	91	80	9	9	------	
12	30.1	21.6	90	62	4	5	------	
13	31	20.1	95	64	5	6	------	
14	31.3	21	93	65	3	5	------	
15	31.2	21	95	64	3	4	------	
16	29.9	20.6	96	66	9	6	------	
17	30.4	19	95	57	2	3	------	
18	30.5	20.2	95	64	4	5	------	
19	29.8	16.1	94	63	4	5	------	
20	30.3	18.3	96	67	1	6	------	
21	30.8	20.8	94	70	7	7	------	
22	30.9	18	95	63	1	3	------	
23	30.3	20.2	91	56	7	6	------	
24	27.2	20.3	94	70	4	7	------	
25	28.8	20.2	91	80	10	10	11.7	● a. p.
26	28	20.2	95	88	9	9	1.3	●° a.
27	30.8	21	90	65	3	3	------	
28	31.9	20.6	97	57	1	3	------	
29	29.3	20.5	92	80	7	9	2.1	●° a. p.
30	30.3	21	97	69	5	6	.3	
31	31.3	20.3	94	62	5	4	------	d a.
Mean	30.1	20.1	94.4	69.5	4.9	6.6	------	
Total	------	------	------	------	------	------	25.3	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.8	20.1	98	64	4	5	------	
2	30	20.5	98	65	7	2	------	
3	30.6	19.2	98	65	6	8	9.1	
4	30.1	19.5	98	64	9	7	------	♌ ●² a.
5	29.3	20.2	98	64	2	5	------	♌ a.
6	30	20.1	98	63	3	7	------	♌ a.
7	30.7	20	98	62	2	2	------	
8	30.3	19.5	97	62	5	8	------	
9	30	19.2	98	64	6	8	7.6	♌ a. ● p.
10	30.2	19	97	65	10	7	------	d° p.
11	29.5	19.4	98	65	2	5	5.3	● p.
12	29	19.5	97	65	7	8	------	d p.
13	29.2	19.2	97	63	8	6	6.6	♌ a. ●° a. p.
14	28.8	19.4	98	66	4	6	8.4	● p.
15	29.4	19.8	98	68	7	8	------	d a.
16	29.1	20	98	70	2	6	------	♌ a.
17	30	20.3	97	64	7	5	------	
18	30.3	20.6	97	63	8	4	------	♌ a.
19	30	20	98	65	2	2	------	
20	30.5	20.7	98	66	8	5	------	♌ a.
21	30.8	20.3	98	67	7	8	------	d a.
22	30.5	20.1	98	65	2	5	------	
23	31	20	97	70	3	8	------	d p.
24	30	19.7	98	70	2	7	2	♌ a.
25	30.3	19.2	98	69	10	8	3.8	●° a. p.
26	29	19.4	98	68	7	8	7.9	● p.
27	29.3	19.1	97	68	8	5	------	♌ d a.
28	29.8	19.6	98	69	10	6	------	
29	30	19.5	97	68	9	10	11.5	d a. ● p.
30	28.1	19	98	71	10	10	11.4	● a. p.
31	28	18.7	97	74	10	10	11.4	● a. p.
Mean	29.8	19.7	97.7	66.2	6	6.4	------	
Total	------	------	------	------	------	------	85	

Meteorological data for third and fourth class stations—Continued.

SANTA CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.9	21.4	97	71	8	8	0.8	☊° a. ☂ d p.
2	31	20.6	99	67	3	7	------	☰° ☊² a.
3	30.7	20.3	98	65	7	7	1.3	d p.
4	28.7	20.2	99	80	7	9	------	
5	30.5	21.7	98	75	8	8	------	☊ a.
6	31.9	21	98	59	7	3	------	☊² a.
7	29.5	20.6	91	63	7	4	------	☊° a.
8	28	18.2	96	66	8	7	.3	d° a. p.
9	28.6	19.6	96	72	5	9	2.6	☊° a. d a. p.
10	26.4	21.5	86	91	9	10	------	d a. p.
11	27.5	22.5	88	87	10	8	3.3	d² a. p. ◠ p.
12	29.8	22.7	90	62	6	5	------	
13	28.9	22	86	78	4	7	------	◠ a. p. d° p.
14	29.4	21.5	96	71	3	6	------	☊ a.
15	30.5	21.2	97	66	4	6	------	☊ a.
16	29.8	21	96	88	4	8	1	d a. p.
17	30.7	20.3	94	67	3	4	.5	☰° ☊° d a.
18	29.9	20.2	96	66	4	4	------	☾ p.
19	29.9	18	99	64	5	4	------	
20	32	19.2	98	59	1	5	------	☊² a. ☇ p.
21	31	21.1	98	59	3	2	------	☊² a.
22	30	18.7	97	67	1	4	------	☊² ☰° a. d° p.
23	29.3	23.8	97	65	8	9	------	☊² a.
24	28	22.2	87	71	8	9	1.8	☊° d° a.
25	27.2	20.4	82	80	9	10	40.4	☊² d a. ●² p.
26	28.6	21	91	83	10	10	3	☊° ● a. p.
27	29.9	21.6	90	70	2	4	4.3	☊ p a. ●° p.
28	30.7	21.2	98	61	3	2	.8	☊² ☰° a. d² p.
29	27.5	21.4	92	88	10	9	2.8	☊² d a. ◠ p.
30	29.7	22	90	76	8	4	2.1	☊ ◠ p a. d p.
31	30	21.5	87	72	8	4	14	☊ d a. p.
Mean	29.6	20.9	93.8	71.3	5.9	6.3	------	
Total	------	------	------	------	------	------	79	

ANTIPOLO.

[ϕ=14° 36′ N; λ=121° 10′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.2	21.4	93	65	7	8	1	
2	31.5	20.6	95	77	3	8	4	●° a. p.
3	30.1	19.1	95	78	7	9	------	◠ p.
4	30	19.6	98	71	8	9	------	☊² ☰° a.
5	29.9	21.8	96	65	10	10	------	☊ a.
6	30.2	21.4	98	73	7	8	------	☊² a. ◠ p.
7	30.4	19.5	95	68	3	6	------	☊ a.
8	29.8	16.8	89	61	2	4	------	☊² a.
9	30.8	18.6	92	61	5	4	------	☊ ◠ a.
10	30.1	20.4	92	66	8	9	------	☊° ◠ a.
11	28.1	20.2	91	77	6	10	1	d° a. ●° p.
12	31	20.8	92	59	5	6	------	☊ a.
13	31.4	21	91	59	6	4	------	☊° a.
14	31.8	19.4	91	62	2	7	------	☊² a.
15	31.1	20.3	91	68	6	8	------	☊° a.
16	31.8	20.1	93	58	7	5	------	☊ a. ☿ p.
17	31.3	19.8	90	77	2	6	------	☊° a.
18	29.5	18.8	91	74	7	9	------	☊ a.
19	30.3	18.2	94	62	7	7	------	☊² a.
20	30.4	19.8	90	68	3	7	------	☊² a. ☿° p.
21	31.7	20.1	91	63	3	7	------	☊ a.
22	30.7	19.4	91	64	3	7	------	☊² a.
23	29.9	19.8	84	57	3	4	------	☊° a. ☋ p.
24	29.8	19.6	91	64	6	8	.8	☊ a. d° p.
25	29.7	20.5	90	67	4	9	7.1	●° a.
26	29.9	20.7	92	91	9	10	4.8	●° a. p.
27	31.1	21.3	85	55	4	2	1	◠ p.
28	32	20.9	91	63	3	4	------	●° a.
29	30.8	20.2	94	68	2	9	------	☊² ☇° p.
30	30.8	20.8	91	58	4	10	4.3	☊ a. ● a. p.
31	31.7	20.4	90	61	4	4	8.9	☊° p° a. ● p.
Mean	30.6	20	91.8	66.5	5	7	------	
Total	------	------	------	------	------	------	32.9	

IBA.

[ϕ=15° 20′ N; λ=119° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.4	22.3	85	66	7	5	------	
2	30.3	21.5	95	70	4	5	------	
3	30.5	21.5	96	70	10	10	------	
4	30.8	20.5	97	72	10	10	------	☊° a. ◯ p.
5	31.5	20	98	68	5	8	------	☊² ◯ a.
6	30.9	20.6?	96	59	8	7	------	☊ ☰° a.
7	30	19	97	68	3	2	------	☊ ☰° a.
8	30.7	18.5	69	55	2	1	------	
9	30	19	80	62	2	10	------	☊ a.
10	30.5	20.5	86	61	10	8	------	⊕ p.
11	29.9	19.5	81	71	3	10	------	d° p.
12	31.3	22.5	74	62	5	7	------	
13	32	18.9	93	56	6	5	------	
14	33.1	18.9	94	52	5	2	------	☊ a.
15	30.5	19.5	95	68	4	7	------	☊ a. d° p.
16	31	18.5	95	66	2	4	------	☊ a.
17	31	17.5	93	61	2	6	------	☊ a.
18	30.6	18	94	67	1	3	------	☊ a.
19	30	18	96	64	10	10	------	☊ a. ◯ p.
20	30.2	19	94	63	1	2	------	☊² a.
21	31.5	19	95	62	10	2	------	☊² ☰° a.
22	31	18.5	95	65	2	4	------	☊ a.
23	30.6	17.5	86	59	1	5	------	☊ a.
24	30.9	18.5	91	63	4	10	------	☊ ☰° a.
25	32	22.7	73	56	10	6	------	d° ◠ a.
26	32.3	23.7	63?	56	10	10	------	
27	33	22.5	81	65	10	5	------	
28	31.1	20.9	95	66	4	2	------	
29	30.4	19.3	95	73	2	7	------	☊ ☰° a.
30	30.7	21.7	96	72	10	10	0.4	d° p.
31	31	19	95	71	2	10	------	
Mean	31	19.9	89.5	64.2	5.3	6.2	------	
Total	------	------	------	------	------	------	.4	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	21.4	96	70	8	4	------	
2	31.8	22.2	96	65	3	4	------	
3	31.2	20.6	90	60	2	8	------	
4	31.3	21.6	96	66	3	9	------	
5	31.2	21	94	68	4	4	------	
6	32.3	22.2	92	50	3	3	------	
7	30.7	20	90	67	3	2	------	
8	30.5	16.9	87	69	1	3	------	
9	29.9	17.6	90	62	7	3	------	
10	30 1	15. 6?	93	55	2	4	------	☇ p.
11	30.8	17.3	88	59	2	9	------	d° p.
12	32.5	19.4	93	52	2	3	------	
13	32.1	18.7	95	48	2	2	------	☋ p.
14	33	19.2	92	52	2	2	------	
15	32.7	19.5	90	55	2	8	------	
16	32.5	18.9	91	53	2	2	------	
17	32.2	18.6	94	59	2	4	------	
18	31.9	18.7	95	60	2	2	------	
19	30.2	18.6	95	60	3	8	------	
20	32.7	18.4	95	55	2	3	------	
21	32.7	19	95	50	4	3	------	
22	32	19.3	94	58	4	3	------	
23	32	18.4	95	57	1	2	------	
24	32	18.6	95	59	4	7	------	
25	32	21.2	77	57	10	9	------	
26	29.6	18?	84	70	10	10	8.7	d a. p. ◠ p.
27	30	21	90	65	8	8	------	
28	32.5	21.4	95	57	7	3	------	
29	33	21	95	52	3	2	------	
30	33.1	23	86	51	10	8	------	d° p.
31	32.4	19.5	94	57	3	7	------	
Mean	31.6	19.6	92	58.6	3.9	4.8	------	
Total	------	------	------	------	------	------	8.7	

Meteorological data for third and fourth class stations—Continued.

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.7	22.2	99	87	10	4	------	☊ ☰ d° a.
2	29	21.3	98	81	10	10	0.8	☊ ●° a.
3	30	20.1	95	74	10	10	2	☊ a. ● p.
4	30.7	20.9	95	67	10	10	------	☊ a.
5	31.7	22.5	87	68	10	10	------	☊ a. d° p.
6	30.4	20.2	92	68	9	1	.3	☊ a. ●° p.
7	29.2	19.8	91	60	10	1	------	☊² a. ∞ p.
8	29.2	17.7	90	60	10	9	.2	☊ ☰° a. ● p.
9	27.3	20.7	92	73	10	9	4.1	☊ ● a.
10	28.2	22.8	79	69	10	10	------	
11	26.2	22.4	71	91	10	10	9.4	● a. p.
12	28.7	22	96	88	10	10	2.5	● a. d p.
13	29.4	21.3	94	68	10	10	------	☊ a. d p.
14	29.7	21.2	95	77	9	10	36.8	☊ a. d ☾ ☿ ●² p.
15	29.5	22.5	96	80	10	1	3.8	☿ ● p.
16	29.2	21.6	96	84	10	1	------	☊² a.
17	26.7	21.1	93	91	10	10	4.3	☊² d a. ● a. p.
18	28.9	20.7	97	74	10	2	------	☊ a. ☿ d p.
19	30.5	18.5	94	70	10	1	------	☊² a.
20	30.6	18.9	92	69	10	1	------	☊ a.
21	30.2	19.6	95	69	10	1	------	☊ a.
22	29.2	20.9	96	68	10	1	------	☊ a. ☿ p.
23	28.9	21	95	71	10	8	.1	☊ a. ☿ ●° p.
24	27.5	22.1	94	80	10	10	4.6	☊ d a. ● p.
25	27.1	21	95	75	10	10	49.3	● a.
26	26.9	21.4	97	92	10	10	249.1	●² a. p. ☇ ⊤ p.
27	28.5	20.9	97	82	10	6	17.8	☊ ☾ a. ● p.
28	28.8	21.6	96	78	10	2	4.6	☊ a. ● p.
29	29.2	22.9	97	78	10	10	48.3	☊ ☰° d a. ●² p.
30	26.8	21.7	96	91	10	10	18.3	●² a. ● p.
31	27.3	21.3	97	83	10	2	1.5	☊ a. ● a. p.
Mean	28.8	21.1	93.5	76.3	9.9	6.5	------	
Total	------	------	------	------	------	------	457.8	

SAN FERNANDO, UNION.

[ϕ=16° 37′ N; λ=120° 19′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.1	22.4	93	65	10	2	------	☾° p.
2	30.7	21.9	97	68	9	3	------	d° a.
3	30.5	21.6	96	65	9	3	------	☊° a. ☾° p.
4	31.3	21.1	96	62	8	6	------	♄² ☾° a.
5	29.8	22.1	86	68	3	10	------	☊° a. ☾° a. p.
6	29.9	22.3	85	64	4	4	------	
7	29.2	18.3	97	66	2	0	------	☊² a.
8	29.5	17.6	97	65	0	1	------	☊² a.
9	30.2	17.7	93	58	4	1	------	☊² a.
10	29.7	19	95	62	9	1	------	☊² a.
11	28.2	19.8	96	67	3	9	------	☊² a.
12	29.8	20.5	95	68	3	1	------	☊² a.
13							------	
14							------	
15	30.5	20.4	98	68	1	5	------	☊² a.
16	30.1	21.2	94	75	1	1	------	☊² a.
17	30.6	21.2	98	73	2	7	------	☊² a.
18	30.2	20.3	98	71	1	3	------	☊° a. ♇² p.
19	29.1	20.1	97	64	4	9	------	☊² a. ☾° a. p.
20	29.5	19.1	96	65	1	1	------	☊² a.
21	29.9	19.8	96	64	1	1	------	☊² a. ☋° p.
22	29.7	18	96	66	1	1	------	☊² a.
23	29.6	19.1	95	62	1	1	------	☊² a.
24	29.2	18	96	64	1	1	------	☊² a. ☿° p.
25	29.5	22	95	82	10	4	------	d° a.
26	29.5	22.4	94	70	10	10	1.3	♁ a. d² p.
27	29.1	22	94	70	10	9	------	♁° ☿° p.
28	30.8	20.3	98	66	4	4	------	☊² ♁² a.
29	29.4	22	96	68	10	1	------	
30	30.2	22.3	96	71	9	1	------	☊☾ a.
31	39.5	21.3	98	65	2	3	------	☊² a.
Mean	29.9	20.5	95.2	67	4.6	3.6	------	
Total	------	------	------	------	------	------	11.3	

ECHAGUE.

[ϕ=16° 41′ N; λ=121° 39′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	21.2	96	76	10	8	------	
2	31	19.6	94	67	0	8	------	☊ a.
3	29.1	19.9	96	83	4	9	------	☰° ☊ a. d° p.
4	27.3	20.7	95	77	9	10	------	p° a. d° a. p.
5	28.9	21.3	86	68	8	8	------	p° a. ∞ p.
6	28.8	19.7	92	73	4	6	------	∞ p.
7	28.2	19.6	95	64	10	4	------	☰° ☊ d° a. p° ∞² p.
8	26.5	17.4	96	77	9	9	------	☰° ☊² a. ∞ p.
9	25.3	19.3	95	81	10	9	1.8	☰ ☊ d° a. p° d p.
10	24.5	19.3	93	81	9	9	1.8	d° ☰° ☊ a. ●° p.
11	25.1	19.3	96	84	9	10	4.3	☰° ☊² a.
12	28.3	21.3	96	76	10	8	------	● d° a.
13	29.4	20.1	96	65	10	2	------	☰° ☊² a. ∞ p.
14	30	19	96	65	6	2	------	☊ a. ∞ p.
15	31.9	20.2	94	67	2	3	------	☰° ☊² a. ∞ ☋ p.
16	30.3	20.2	94	67	9	4	------	☊ a. ∞ p.
17	28.8	18	95	69	9	9	------	☊² a. d° p.
18	30	20.5	96	62	9	6	------	d° a. ∞ p.
19	27.1	19.4	95	74	10	9	.8	∞ p.
20	29.3	21	92	73	10	8	------	d° a. ☿² p.
21	29.9	19.9	95	64	6	2	------	☰° ☊ a. ∞ p.
22	29.8	19.4	95	61	9	4	------	☰° ☊² a. ∞ p.
23	28.8	19.5	95	71	10	5	------	d° a. ∞ p.
24	25.3	19.3	93	80	9	9	6.1	d° a. ●° p.
25	24.3	19.3	95	84	10	10	8.4	d° a. p.
26	23.6	20.3	94	93	10	10	72.7	● d° a. ●° p.
27	27.4	19.7	99	79	9	7	12.7	
28	30.7	19.7	96	67	10	2	------	● a.
29	27.3	20.3	95	82	10	9	2.8	☰° ☊ a. d° p.
30	27.3	19.9	96	78	10	7	1.3	d° a. p.
31	25.7	21.4	96	91	9	10	11.2	d ☰° ☊² a. d ● ° p.
Mean	28.1	19.9	94.7	74.2	8.4	7	------	
Total	------	------	------	------	------	------	123.9	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.6	23.7	94	76	10	4	------	d ☾ p.
2	29.9	23.5	89	78	7	4	------	d p.
3	29.2	24	84	74	7	4	------	☊² a. d p.
4	30.5	23.2	82	53	7	6	------	☊² a.
5	28.8	23	79	70	1	8	------	☊² a.
6	28.9	21.6	83	68	2	4	------	☊ a.
7	28.9	20.5	77	57	0	1	------	☊² a.
8	28.2	18.5	72	56	0	0	------	☊² a.
9	28.9	18.2	72	57	0	8	------	☊² a.
10	29.9	20.2	76	59	0	2	------	☊² a.
11	28.5	20.7	73	67	3	8	------	☊² a. d p.
12	28.9	20.7	84	70	5	4	------	☊² a.
13	29	19.2	82	64	3	2	------	☊² a.
14	29.5	19.1	86	59	4	2	------	☊² a.
15	29.4	19	85	74	3	5	------	☊² a.
16	29.4	19	87	71	2	4	------	☊² a.
17	29	21.6	87	64	0	1	------	☊² a.
18	28.9	22	87	71	0	4	------	☊² a.
19	28.5	20.8	82	63	8	7	------	☊² ☾ a. ☿ p.
20	29.9	20.6	84	65	3	4	------	☊² a. ☋² p.
21	28.5	22	87	65	5	1	------	☊ a.
22	28.7	19.6	85	62	0	0	------	☊² a.
23	28.9	19.5	75	60	3	1	------	☊² a.
24	29.5	19.5	81	64	0	1	------	☊² a. ☿ p.
25	29.9	22.5	74	61	8	4	------	d a.
26	30.6	23	76	58	10	10	------	d p.
27	28.9	23.5	85	74	10	9	------	
28	28.9	21.5	87	75	1	8	------	☊² a.
29	28.9	21	88	67	0	2	------	☊² a.
30	29.5	22.8	80	67	0	2	------	☊² a.
31	30.5	21	86	67	0	1	------	☊² a.
Mean	29.2	21.1	82.2	65.7	3.3	3.9	------	
Total	------	------	------	------	------	------	------	

[1] 29 days of observation.

Meteorological data for third and fourth class stations—Continued.

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	22.1	96	59	10	4	------	d° ☾° p.
2	30.2	22.1	93	70	5	8	4.3	● p.
3	31.6	21.7	97	62	6	5	------	d p.
4	29.5	22.6	86	59	9	8	------	○ a. ◠ p.
5	27.6	22.9	80	72	7	10	1.3	d° p.
6	28.9	20.7	95	64	8	9	------	● ≡° a. ○ p.
7	59.2	17.2	91	49	2	2	------	
8	29.8	16.4	85	54	1	6	------	Ω a.
9	28.9	20.5	75	49	9	2	------	
10	29.8	20.5	67	46	2	1	------	
11	32.4	17.5	91	50	6	4	------	Ω° a.
12	33.8	20.5	91	48	4	4	------	
13	31.6	16	91	39	1	1	------	
14	30.9	18.5	88	54	1	1	------	Ω° a.
15	30.5	18.8	95	65	5	3	------	Ω° a.
16	31.3	20.1	92	56	2	2	------	
17	30.4	19.7	92	52	0	1	------	Ω a. d p.
18	30.3	21.4	92	67	1	4	------	∪° p.
19	31.6	17.6	91	48	9	8	------	Ω° a. ∪ p.
20	31.2	22.5	81	60	3	6	------	
21	30.8	18.1	95	52	2	1	------	Ω° ≡° a.
22	30.9	15.8	96	49	1	1	------	Ω ≡° a.
23	30.9	16	89	44	2	2	------	
24	31.3	16.1	93	46	1	1	------	Ω° a.
25	30.5	22.4	72	54	8	9	------	
26	31.1	20	79	64	10	10	1.9	d ◠° ● p.
27	31.5	21.9	82	60	9	10	------	
28	27.4	20.4	93	80	9	10	------	Ω° ◠ ● a.
29	32.3	19.5	96	52	1	1	------	Ω° a.
30	33.6	19.6	92	52	1	1	------	Ω° a.
31	31.4	21.5	81	55	2	2	------	
Mean	30.7	19.7	88.3	55.8	4.4	4.4	------	
Total	------	------	------	------	------	------	7.5	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs beginning 6 . m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	26.4	21.3	91	90	10	10	44.5	● a. p.
2	29.5	22	94	81	6	6	47.3	◠° a. d p.
3	24.2	21.6	92	84	10	10	23.3	● ☇° a. p.
4	24	20.3	83	81	10	10	11.2	● ☇° a. p.
5	24.4	19.5	83	81	10	10	4.5	d° a. ☇° a. p. ● p.
6	24.4	19.4	80	73	8	4	------	d a. ☇° a. p.
7	25.4	20.3	81	79	6	7	3.3	● p.
8	23.5	19.9	90	87	9	8	9.4	●° a. p.
9	23	19	87	82	8	9	6.1	● a. ●° ☇° p.
10	24.5	18	85	83	8	6	4.7	●° a. p.
11	27	19.2	86	70	8	7	15.2	● a. p.
12	27.5	20.3	93	86	10	7	12.8	● a. p.
13	28.4	21.7	91	77	8	4	.8	d° ◠° a.
14	29.5	22	89	75	6	3	------	●° a.
15	25.7	21.1	94	81	7	8	3.7	d a. p.
16	23.9	19.5	87	88	8	10	11.4	● a. p.
17	28.4	20.4	87	70	4	5	------	
18	28.1	22.5	84	72	4	4	------	
19	26.7	19.8	84	80	7	8	------	○° a. ☇° ⊽2 p.
20	27	21.5	81	72	8	8	------	
21	27.4	20.3	86	80	5	4	4.5	● p.
22	27.2	19.2	95	75	8	3	4.4	● a. p.
23	22.8	19	89	88	8	10	62.9	◠° a. ● a. p.
24	21.5	16.7	92	85	10	10	38	● a. p. ☇° p.
25	24.6	15.7	91	81	10	8	9.4	● a. p.
26	23.8	19.5	87	91	10	10	7.1	● a. p.
27	24.7	18.5	91	88	10	10	17	d° a. ● ☇° p.
28	26.4	21.1	95	91	6	8	19	● p.
29	21.8	17.6	88	84	10	10	5.9	●° a. p. ☇° p.
30	23	17	91	88	8	10	2.8	◠° ●° a. d° p.
31	23.7	19	89	77	9	8	26.7	● a.
Mean	25.4	19.8	88.3	81.3	8	7.6	------	
Total	------	------	------	------	------	------	395.9	

SEISMOLOGICAL BULLETIN FOR DECEMBER, 1912.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

1, 5^h 36^m [1, 13^h 36^m]. **Sorsogón** (SE Luzon). Oscillatory earthquake, direction NNW–SSE, intensity III–IV, duration 8s.

6, 5^h 41^m [6, 15^h 11^m]. **Yap** (Western Carolines). Oscillatory earthquake, direction N–S, intensity III, duration 4^s. It was accompanied by subterranean noises; immediately after the earthquake a wave was observed in the sea. The epicentre was certainly outside the Island of Yap, but at no great distance from it. It is said that there were two faint repetitions during the night. As this earthquake does not appear to have been recorded by any of the seismographs of the nearest Observatories, Manila, Taihoku, Zikawai and Osaka, it had probably a local character.

6, 20^h 21^m [7, 4^h 21^m]. **Sorsogon** (SE Luzon). Oscillatory earthquake, direction NW–SE, intensity III–IV, duration 10s.

7, 0^h 13^m 04^s* [7, 8^h 13^m 04^s]. **Baler** (E Luzon). Earthquake of intensity III, duration 4^s. The epicentre was to the SE of Nueva Vizcaya, some 170 kilometers from Manila and 80 from Baguio.

13, 8^h 00^m [13, 16^h 00^m]. **Sarangani** (S Mindanao). Earthquake of intensity III–IV.

21, 3^h 29^m [21, 11^h 29^m]. **Sorsogon** (SE Luzon). Oscillatory earthquake of intensity III.

23, 9^h 14^m [23, 18^h 44^m]. **Guam** (Mariana Islands). Earthquake of intensity III.

23, 10^h 39^m [23, 18^h 39^m]. **Butuan** (N Mindanao). Oscillatory earthquake direction NNE–SSW, intensity V–VI, duration 25^s. The epicenter of this earthquake was in the Bay of Butúan, but its extension must have been very small, for it was not felt in the near-by stations of Surigao and Talacogon. On other occasions it has been mentioned that an epicentre exists in the eastern part of Butúan Bay, whence come frequently earthquakes of a superficial character, perhaps volcanic, of much intensity but little extension. They sometimes reach intensity VI and VII, but are not recorded by the seismographs of Manila, situated some 760 kilometers away. At 11h 56m a repetition of intensity II–III was felt.

25, 13^h 46^m [25, 21^h 46^m]. **Cotabato** (SW Mindanao). Oscillatory earthquake. Direction SW–NE, intensity IV, duration 8^s.

[1] The intensity of the earthquakes is given in the notation known as the De Rossi-Forel scale. The time is that indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in Greenwich mean time (Midnight=0^h), Insular time being added in brackets for the convenience of Philippine readers.

26, $3^h\ 10^m\ 25^{s*}$ [26, $11^h\ 10^m\ 25^s$]. **SE Luzon.** Earthquake of intensity IV–V, which was felt in the Provinces of Sorsogon, Albay, Catanduanes, and Masbate, in the eastern part of the Camarines and N of Samar. Its epicenter was to the N of the San Bernardino Strait.

28, $8^h\ 01^m\ 10^{s*}$ [28, $16^h\ 01^m\ 10^s$]. **SE Luzon.** Earthquake of intensity V–VI which took its rise in the same epicenter as the preceding earthquake, and was felt in the Island of Leyte as well as in the provinces noted above, which gave it an extension from N–S of 500 kilometers or more. It is very probable that its extension towards the Pacific was also greater and that the origin of the movement was in the extreme N of the great Philippine "Deep," close to 125° 30′ E and 13° N, where there appears to be a line of fracture that extends to the W in the direction of the volcanic region of Albay. The repetitions that were felt only in Laoang at 16h 10m of the 28th and at 8h 55m of the 30th seems also to indicate this. The station at Laoang is situated in the NE of the Island of Samar at 125° 01′ E and 12° 35′ N and is nearest to the seat of origin indicated. The intensity given above is that felt in Laoang and the most easterly part of Albay, but in the epicenter itself it must have been much greater. This earthquake was registered on all the seismographs of the Far East and Europe.

28, $11^h\ 48^m$ [28, $19^h\ 48^m$]. **NE Mindanao.** Earthquake of intensity IV–V in the peninsula of Surigao and the N of the Agusan Valley. The epicenter appears to be very close to that of the earthquake of the 23d in the Butuan Bay. It is quite possible however that it is a little more to the NE.

31, $3^h\ 30^m$ [31, $11^h\ 30^m$]. **Butuan** (N Mindanao). Earthquake of intensity II–III.

RECORDS OF THE MICROSEISMOGRAPH

[Time: Mean Greenwich. Midnight=0h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T_o=7.3, ϵ=3, $\frac{r}{T_o^2}$=0.027; A_E: T_o=7.8, ϵ=3, $\frac{r}{T_o^2}$=0.040. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
289	1	Id	eP	7 54 59				
			F	57				
290	1	II	eP	8 26 21				
			L	27 52				
			M_E	31 25	11–12		620	
			M_N	31 48	10–11	603		
			F	9 51				
291	1	Id	eP	9 22 37				The end is indefinite because it is confused with the preceding earthquake.
292	1	Id	eP	9 32 43				Do.
293	3	Id	eP	16 19 43				
			L	20 04				
			F	23				
294	5	Id	eP	17 01 09				
			L	01 23				
			F	04				
295	6	Id	eP	1 02 36				
			L	02 55				
			M_N	03 07	0.5	164		
			F	08				
296	6	Ir	L	14 41				
			F	15 00				Early phases are confused by pulsatory oscillations.
297	7	IIv	eP	0 13 04				Baler (E of Luzon).
			L	13 35				
			M_E	13 54	1–2		618	
			F	28				
298	7	Id	eP	21 32 31				
			L	32 45				
			M_N	32 47	1–2	250		
			M_E	32 47	1		120	
			F	40				
299	7	Ir	e	23 06				
			S	12 58				
			L	19 27				
			M_N	21 12	6	28		
			M_E	21 12	6–7		37	
			F	57				
300	8	I	eP	11 27 22				End overtaken by following earthquake.
			L	27 48				
301	8	Id	eP	11 31 00				
			L	31 17				
			F	37				
302	8-9	IIr	eP	23 54 56				Near Japan.
			S_N	0 00 07				
			S_E	00 25				
			L_N	05 59	5–6			
			L_E	06 08	6			
			M_N	13 50	14	47		
			M_E	16 45	13–14		54	
			F	56				
303	9	Ir	e	8 54 13				
			F	9 26				
304	9	Ir	e	9 57				
			F	10 25				
305	16-17	Ir	e	23 40				
			F	0 07				
306	17	Id	eP	7 24 25				
			L	24 40				
			M_N	24 42	1	33		
			F	29				
307	17	Id	eP	9 17 58				
			F	21				

Records of the microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude. A_N μ	Amplitude. A_E μ	Remarks.
				h. m. s.				
308	17	I_d	eP	15 19 16				
			L	19 30				
			F	22				
309	17	Id	iP	16 10 50				
			F	12				
310	19	I_d	eP	11 36 02				
			F	40				Record barely discernible by pulsatory oscillations.
311	20	I_r	e	20 06				
			F	49				Motions of a distant earthquake confused by pulsatory oscillations.
312	22	I_r	e	9 06				
			F	39				
313	24	II	eP	0 00 00				
			L	00 50				
			M_N	02 06	6	476		
			M_E	03 36	11		482	
			F	1 24				
314	24	II_r	eP	18 09 43				Formosa.
			S_E	11 34				
			S_N	11 36				
			L_N	13 32				
			L_E	13 40				
			M_N	15 38	13	152		
			M_E	17 51	11-12		224	
			F	19 48				
315	26	II_v	eP	3 10 25				SE of Luzon.
			L	11 20				
			M_N	11 56	6	328		
			F	20				
316	28	III_v	eP	8 01 10				Do.
			L	02 09				
			F	9 55				
317	28	I	eP	15 55 50				
			L	56 50				
			M_N	57 28	8	138		
			M_E	57 47	8		100	
			F	16 16				
318	29	Id	eP	10 30 24				
			L	30 40				
			M_E	30 51	1-2		252	
			F	41				
319	29	I_r	e	21 46				
			M	58 30	10-11		30	
			F	22 17				
320	30	II	eP	8 29 23				
			L	30 35				
			M_{N1}	31 12	6-7	595		
			M_{E1}	31 12	4		194	
			M_{N2}	33 08	7	471		
			M_{E2}	34 14	5-6		191	
			M_{N3}		7	459		
			F	34 28				
				9 35				
321	31	Id	iP	8 16 15				
			F	18				
322	31	I_r	eP	14 34 28				
			M_N	40 07	7	17		
			F	57				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

1, 5^h 36^m [1, 13^h 36^m]. **Sorsogón** (SE de Luzón). Temblor oscilatorio, dirección NNW–SSE, intensidad III–IV, duración 8^s.

6, 5^h 41^m [6 15^h 11^m]. **Yap** (Carolinas Occidentales). Temblor oscilatorio, dirección N–S, intensidad III, duración 4^s. Acompañado de ruido sordo subterráneo: inmediatamente después se observó oleaje en el mar. Su epicentro se hallaba seguramente fuera de la pequeña isla de Yap, pero no a mucha distancia; algunas personas aseguran que por la noche sintieron dos repeticiones muy débiles. Este temblor no parece haber sido registrado por ningún seismógrafo de los Observatorios más cercanos de Manila, Taihoku, Zikawei y Osaka, debió ser por consiguiente de carácter muy local.

6, 20^h 21^m [7, 4^h 21^m]. **Sorsogón** (SE de Luzón). Temblor oscilatorio, dirección NW–SE, intensidad III–IV, duración 10^s.

7, 0^h 13^m 04^s* [7, 8^h 13^h 04^s]. **Baler** (E de Luzón). Temblor de tierra de intensidad III, duración 4^s. El epicentro de este temblor se hallaba hacia la parte SE de Nueva Vizcaya a unos 170 ks. de Manila y 80 kilómetros de Baguio.

13, 8^h 00^m [13, 16^h 00^m]. **Sarangani** (S de Mindanao). Temblor de tierra de intensidad III–IV.

21, 3^h 29^m [21, 11^h 29^m]. **Sorsogón** (SE de Luzón). Temblor oscilatorio de intensidad III.

23, 9^h 14^m [23, 18^h 44^m]. **Guam** (Islas Marianas). Temblor de tierra de intensidad III.

23, 10^h 39^m [23, 18^h 39^m]. **Butúan** (N de Mindanao). Temblor oscilatorio, dirección NNE–SSW, intensidad V–VI y duración 25^s. El epicentro se hallaba en la bahía de Butúan, su extensión debió ser muy poca puesto que no parece haberse sentido en las estaciones más próximas de Surigao y Talacogon. En otras ocasiones ya se hizo notar que en la parte oriental de la bahía de Butúan existe un epicentro donde suelen originarse terremotos de carácter superficial, tal vez volcánicos, de mucha intensidad pero de reducida extensión, los cuales aun llegando a intensidad de VI y VII no son registrados por los seismógrafos de Manila situados a 760 ks. de distancia. A 11^h 56^m se sintió una repetición de intensidad II–III.

25, 13^h 46^m [25, 21^h 46^m]. **Cotabato** (SW de Mindanao). Temblor oscilatorio, dirección SW–NE, intensidad IV, duración 8^s.

26, 3^h 10^m 25^s* [26, 11^h 10^m 25^s]. **SE de Luzón.** Temblor de tierra de intensidad IV–V sentido en las Provincias de Sorsogón, Albay, Catanduanes y Masbate, en la parte oriental de Camarines y N de Sámar. Su epicentro se hallaba al N del estrecho de San Bernardino.

28, 8^h 01^m 10^s* [28, 16^h 01^m 10^s]. **SE de Luzón.** Temblor de tierra de intensidad V–VI originado en el mismo epicentro que el anterior, pero sentido en las provincias antes mencionadas y además en la isla de Leyte; en una extensión de N a S de más de 500 kilómetros. Es probable que tuvo también mucha extensión hacia el Pacífico y que el origen del movimiento estuvo en el extremo N de la gran Fosa de Filipinas, cerca de los 125° 30′

[1] La intensidad de los terremotos se indica conforme a la conocida escala de De Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

E y 13° N, de donde parece arrancar una línea de fractura que se extiende hacia el W en dirección a la región volcánica de Albay. Así parecen indicarlo las repeticiones sentidas solamente en Laoang a 16h 10m del mismo día 28 y a 8h 55m del 30. La estación de Laoang está situada al NE de la isla de Sámar a 125° 01′ E y 12° 35′ N y es la más próxima al origen indicado. No hay duda de que en el epicentro tuvo este terremoto mucha mayor intensidad que la indicada al principio, la cual corresponde a Laoang y a la parte más oriental de Albay: fué registrado por todos los seismógrafos del Extremo Oriente y de Europa.

28, 11h 48m [28, 19h 48m]. **NE de Mindanao.** Temblor de tierra de intensidad IV–V en la peninsula de Surigao y parte N del valle del Agusan. Su epicentro parece estaba muy cerca de donde se originó el temblor del día 23, en la bahía de Butúan: es posible estuviese algo más hacia el NE.

31, 3h 30m [31, 11h 30m]. **Butúan** (N de Mindanao). Temblor de tierra de intensidad II–III.

APPENDIX TO THE MONTHLY BULLETINS FOR 1912.

ANNUAL SUMMARY OF METEOROLOGICAL DATA FOR MANILA, DEDUCED FROM TWENTY-FOUR DAILY OBSERVATIONS DURING THE YEAR 1912.

Month.	Pressure.		Air temperature.						Wind.			
										Velocity.		
	Mean.	Departure from normal.	Mean.	Departure from normal.	Mean maximum.	Departure from normal.	Mean minimum.	Departure from normal.	Prevailing direction.	Mean.	Departure from normal.	Hourly maximum.
	mm.	*mm.*	*°C.*	*°C.*	*°C.*	*°C.*	*°C.*	*°C.*		*Km.*	*Km.*	*Km.*
January	762.40	+1.33	24.2	−0.7	31.5	+1.4	19.2	−1.2	E quad.	156.9	− 9.0	25.0
February	61.46	+ .17	25.3	0	32.2	+1.5	20.2	− .1	SE quad.	198.7	+ 7	35.5
March	61.16	+ .62	26.9	+ .3	34.4	+2.1	20.6	− .8	SE	238.7	+12.5	33
April	60.63	+1.23	28	− .2	35.5	+1.7	21.8	−1	E quad.	245.2	+ 8.9	32
May	58.63	+ .26	29	+ .5	36	+2.5	24.3	+ .4	SW quad.	207.9	−18	30
June	57.89	− .05	28.7	+ .8	34.6	+2.3	24.7	+ .8	SW quad.	241.3	+10.1	38
July	57.17	− .12	26.6	− .5	31.9	+1	23.7	+ .1	Variable	186.1	−85.9	44
August	56.65	− .69	26.4	− .7	30.6	− .1	23.9	+ .2	SW quad.	324.1	+32.1	46
September	56.28	−1.16	26.7	− .2	30.6	0	24.2	+ .6	SW quad.	310.2	+40.1	50
October	58.36	− .30	26.3	− .5	30.9	− .2	23.4	+ .3	Variable	179.3	− .6	41
November	58.94	− .42	25.7	− .2	31	+ .7	22.3	+ .1	SE, W	139.5	−23.3	44
December	60.80	+ .34	24.8	− .4	30.6	+ .7	21	− .2	NNE	119.7	−34.9	30
Annual	759.20	+ .10	26.6	− .1	32.5	+1.1	22.4	− .1		212.3	− 5.1	50

Month.	Relative humidity.		Cloudiness.		Evaporation under shelter, total.	Sunshine.		Rainfall.			
	Mean.	Departure from normal.	Mean.	Departure from normal.		Total.	Departure from normal.	Total.	Departure from normal.	Rainy days.	Departure from normal.
	Per cent.	*Per cent.*	*0–10.*	*0–10.*	*mm.*	*h. m.*	*h. m.*	*mm.*	*mm.*		
January	76.3	−1.7	6.0	+0.8	96.3	187 55	− 6 13	21.9	− 5.1	5	0
February	72.7	−1.2	5.2	+ .4	121.5	202 15	+ 2 09	24.6	+ 13.9	6	+ 3
March	64.3	−7.3	4.7	+ .3	176.9	231 30	+ 2 49	2.6	− 15.9	3	0
April	62.5	−7.1	3.9	− .1	188.6	248 50	− 14 38	.8	− 31.4	1	− 3
May	68.6	−7.4	4.8	− .9	158.6	252 25	− 19 18	20.9	− 89.8	5	− 5
June	76.9	−4	6.7	− .3	110.7	201 05	+ 27 21	96.4	−137.5	11	− 5
July	85	+ .2	8.6	+ .8	62.3	109 25	− 40 00	529	+130.5	25	+ 4
August	86.4	+1.4	8.6	+ .8	62.6	110 25	− 33 11	656.6	+297.4	29	+ 8
September	85	− .6	8.4	+ .7	66.8	103 20	− 33 35	227.4	−132.2	18	− 2
October	85.5	+1.9	8	+1.3	61.3	107 35	− 61 42	170.4	− 18.2	26	+10
November	83	+ .5	6.8	+ .4	64.4	166 25	+ 3 59	164.5	+ 33.6	15	+ 3
December	82.2	+1.1	6.4	+ .3	67.6	154 50	− 3 57	13.9	− 46.5	9	0
Annual	77.4	−2	6.5	+ .4	1,237.6	2,076 00	−137 40	1,929	− 1.2	153	+13

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1912.[a]

Date.	Time of occurrence (Greenwich mean time).	Place.	Probable origin or epicenter.		Approximate extensions of the shaken area.		Intensity (Rossi-Forel).	Remarks.
					Longer axis.	Shorter axis.		
	h. *m.*		ϕ	λ	*Km.*	*Km.*		
Jan. 2	6 36	Sarangani (S of Mindanao).					III	Registered at Batavia.
9	20 29	Butuan (N of Mindanao)					II-III	
10	10 07	Nueva Caceres (SE of Luzon).					III	Registered at Manila.
11	14 14	Northern Cebu and western Leyte.	11.0 N.	124.1 E.	100	80	III	
17	18 40	Aparri (NE of Luzon)					IV	Do.
18	3 28	Southern Luzon and northern Mindoro.	13.5 N.	121.2 E.	250	200	IV	Aftershock, III at 7h 36m. Registered at Manila.
19	15 24	Southern Luzon	13.5 N.	121.2 E.			III	
22	3 06	Atimonan (SE of Luzon)					II	
24	12 35	Virac (Catanduanes Island).	13.4 N.	124.3 E.			III	Two aftershocks, II.
25	10 10	Butuan (N of Mindanao)					III	
26	17 58	Northeastern Mindanao	Butuan Bay		240	200	IV	Registered at Manila, Zikawei and Batavia.
26	18 16	Sarangani (S of Mindanao).					II-III	
29	19 02	Butuan (N of Mindanao)	do				III	
30	19 16	Northeastern Mindanao	do				IV	
Feb. 1	6 45	Legaspi (SE of Luzon)	Mayon Volcano				II-III	
1	18 07	Western Luzon	16.2 N.	120.6 E.	140	80	IV	Aftershock, III at 18h 28m. Registered at Manila.
2	22 58	Butuan (N of Mindanao)					III	
7	4 35	Palanoc (N of Masbate)					III	
8	5 48	Guam (Mariana Islands)					III	
11	5 15	Southern Bohol and northern Mindanao.	9.2 N.	124.8 E.			III	
12	17 13	Jagna (SE of Bohol)					IV	
13	16 03	Bohol, eastern Cebu and northern Mindanao.	9.3 N.	124.7 E.	250	180	IV	Several light aftershocks on the 14th.
15	2 50	Northern Luzon	18.6 N.	121.2 E.	170	170	V	Registered at Manila and Taihoku.
15	19 45	Jagna (SE of Bohol)					III	
19	18 00	Sarangani (S of Mindanao).					III	
19	22 20	Butuan (N of Mindanao)					IV	
21	8 06	Sarangani (S of Mindanao).					IV	
21	15 21	Zamboanga (W of Mindanao).					II-III	
22	15 40	Central Luzon	16.4 N.	121.8 E	120	120	IV	Registered at Manila.
22	22 32	Calapan (NE of Mindoro)					IV	Do.
23	4 30	Butuan (N of Mindanao)					II-III	
25	7 15	Agusan Valley (E of Mindanao).	8.2 N.	155.8 E	300	210	V	
26	1 11	Legaspi (SE of Luzon)					II-III	
27	3 10	Sarangani (S of Mindanao).					II	Aftershock at 7h 30m.
29	12 41	Butuan (N of Mindanao)					III	
Mar. 1	3 53	Dapitan (NW of Mindanao).					III-IV	
2	4 45	Sarangani (S of Mindanao).					III	
3	5 57	Agusan Valley (E of Mindanao).	8.2 N.	125.8 E	200	100	V	
6	11 41	Laoang (N of Samar)	12.6 N.	125.0 E			IV	Registered at Manila.
7	0 24	Talacogon (E of Mindanao).	8.2 N.	125.8 E			III	
7	4 44	Northeasthern Mindanao	9.0 N.	125.4 E	210	125	V	Registered at Manila. Aftershocks, III at 5h 04m and 5h 14m.
8	1 08	do	9.0 N.	125.4 E			IV-V	Registered at Manila.
8	23 21	do	9.0 N.	125.4 E	300	200	IV-V	Do.
10	17 35	Butuan (N of Mindanao)	9.0 N.	125.4 E			III	
11	15 34	do	8.8 N.	125.6 E	80	80	IV	Registered at Manila, Formosa and Zikawei.
11	23 50	Talacogon (E of Mindanao.	8.2 N.	125.8 E			IV	
12	2 11	Tacloban (NE of Leyte)					II-III	
12	6 25	Borongan (E of Samar)					III	
12	6 30	Butuan (N of Mindanao)					III	
14	6 26	Agusan Valley (E of Mindanao.)	8.2 N.	125.8 E	180	100	IV	Registered at Manila, Batavia, Formosa and Zikawei. Aftershock at 7h 56m.
16	13 06	do	8.2 N.	125.8 E			III	Registered at Manila.
17	15 25	do	8.2 N.	125.8 E	400	250	V-VI	Registered at Manila, Taihoku, Zikawei and Batavia. Aftershock, III at 15h 28m and 15h 32m and IV at 19h 10m.
19	14 02	do	8.2 N.	125.8 E	400	250	V	Registered at Manila.
19	15 51	Northeasthern Mindanao	9.0 N.	125.4 E	200	125	IV	Do.
20	17 20	Aparri (NE of Luzon)					III	

[a] See explanation in Monthly Bulletin of the Weather Bureau for December, 1910, page 445.

Catalogue of Philippine earthquakes, 1912—Continued.

Date.	Time of occurrence (Greenwich mean time).	Place.	Probable origin or epicenter.		Approximate extensions of the shaken area.		Intensity (Rossi-Forel).	Remarks.
					Longer axis.	Shorter axis.		
	h. *m.*		ϕ	λ	*Km.*	*Km.*		
Mar. 21	4 30	Sarangani (S of Mindanao).					II	
22	4 31	Northeastern Mindanao	9.0 N.	125.4 E.	350	180	V-VI	Registered in the Far East.
25	14 03	Agusan Valley (E of Mindanao).	8.2 N.	125.8 E.	400	250	V	Registered at Manila, Taihoku and Zikawei.
26	13 05	Atimonan (E of Luzon)					III	
26	22 25	Sarangani (S of Mindanao).					IV	
27	12 23	Western Luzon	16.2 N.	120.6 E.	140	80	III	Registered at Manila.
30	7 39	Samar, Leyte and SE Luzon.	13.5 N.	125.0 E.	500	200	V	Registered in the Far East.
30	20 41	Butuan (N of Mindanao)					III	
Apr. 3	11 40	do	9.0 N.	125.4 E.			IV	Repeated, IV at 21h 18m. Registered at Manila.
4	23 00	do					II-III	
5	15 03	Aparri (NE of Luzon)					III	Repeated, III at 20h 07m.
7	7 10	Butuan (N of Mindanao)					III-IV	
7	21 12	Aparri (NE of Luzon)					III	Registered at Manila.
8	20 32	Northeastern Mindanao	9.0 N.	125.4 E.	100	60	IV	
10	3 02	Butuan (N of Mindanao)					II-III	
14	12 29	Northeastern Mindanao	9.0 N.	125.4 E.	180	60	IV-V	Registered at Manila. Aftershook. III at 21h 08m.
14	19 00	Sarangani (S of Mindanao).					II-III	
16	2 08	Romblon Island and northern Capiz.	12.0 N.	122.5 E.	150	150	V	Registered at Manila.
16	14 10	Calbayog (NW of Samar)					III	
18	20 10	Surigao (NE of Mindanao).					II-III	
20	21 16	Butuan (N of Mindanao)					III	
26	6 16	Ilocos Sur (W of Luzon)	17.5 N.	120.3 E.	110	60	III	Do.
29	7 35	Butuan (N of Mindanao)					III-IV	Foreshock, II at 1h 40m.
30	17 20	Sarangani (S of Mindanao).					III	
May 4	14 32	Baguio (Central Luzon)					III	
6	10 40	Santo Domingo (Batanes Islands).					III	
7	15 04	Southern Samar and Northeastern Leyte.	11.0 N.	125.4 E.			IV	
9	3 48	Talacogon (E of Mindanao).	8.2 N.	125.8 E.			III	
10	10 06	Northeastern Mindanao	9.0 N.	125.4 E.	200	100	VII-VIII	Registered at Manila and Batavia. Aftershocks at 18h 26m, 19h 09m, 19h 47m, 20h 05m and 2h 09m, 2h 18m on the 11th.
12	13 45	Santo Domingo (Batanes Islands).					IV	Seismic noises degree VI.
15	23 00	do					III	
16	7 30	Sarangani (S of Mindanao).					III	
16	11 52	Cuyo Island	11.3 N.	121.0 E.			III	Registered at Manila.
17	6 05	Sarangani (S of Mindanao).					II-III	
23	5 43	Baguio (Central of Luzon)					III	
24	7 26	Surigao (NE of Mindanao).					II-III	Registered at Batavia.
28	11 40	Pelew (Western Carolines)					III	
29	2 39	Talacogon (E of Mindanao).					III	
31	13 19	Surigao (NE of Mindanao)					II	
June 4	5 22	Northern Luzon	20.0 N.	124.0 E.			IV	Registered at Manila and Taihoku.
10	20 32	Aparri (NE of Luzon)					III	
12	0 34	Baguio (Central Luzon)					II-III	Registered at Manila. Aftershock, II at 7h 17m.
12	11 52	Legaspi (SE of Luzon)	Mayon Volcano				III	
13	20 20	Ambos Camarines (SE of Luzon).	14.3 N.	123.0 E.	170	100	III	Registered at Manila.
14	17 45	Panay Island	10.8 N.	122.3 E.	110	110	IV	
15	2 16	Santo Domingo (Batanes Islands).					IV	Do.
15	18 30	Sarangani (S of Mindanao).					III	
18	1 33	Northern Luzon	18.8 N.	121.2 E.	200	150	IV	Do.
18	9 30	Cotabato (SW of Mindanao).					III	
23	8 10	Sarangani (S of Mindanao).					II-III	
24	23 19	Butuan (N of Mindanao)	9.0 N.	125.4 E.			III	Repeated at 13h 51m on the 25th.
26	14 27	Baguio (Central Luzon)					II-III	Registered at Manila.
27	1 06	Northwestern Luzon	17.8 N.	120.7 E.	250	190	VI-VII	Registered in the Far East.
28	14 20	Nueva Caceres (SE of Luzon).					II-III	
29	13 03	do					II-III	
29	19 52	Cotabato (SW of Mindanao).					III-IV	
30	17 12	Leyte Island	11.2 N.	124.3 E.			V	

Catalogue of Philippine earthquakes, 1912—Continued.

Date.	Time of occurrence (Greenwich mean time).	Place.	Probable origin or epicenter.		Approximate extensions of the shaken area.		Intensity (Rossi-Forel).	Remarks.
					Longer axis.	Shorter axis.		
	h. *m.*		ϕ	λ	*Km.*	*Km.*		
July 2	8 10	Laoag (NW of Luzon)					II	
4	0 12	Talacogon (E of Mindanao).	8.2 N.	125.8 E.			IV	
4	12 7	Central Luzon	16.3 N.	120.4 E.	200	150	IV–V	Registered at Manila.
6	12 18	Talacogon (E of Mindanao).					III	
6	16 22	Agusan Valley (E of Mindanao).	8.7 N.	125.6 E.	170	100	V	Registered at Manila.
7	10 02	do	8.7 N.	125.6 E.	170	100	V	Do.
7	15 55	Nueva Caceres (SE of Luzon).					II–III	
8	16 40	Northern Luzon	18.7 N.	121.1 E.	200	170	V	Registered in the Far East.
9	3 00	Sarangani (S of Mindanao)					III	
9	10 07	Guam (Mariana Islands)					III	
10	2 14	do					IV–V	
10	7 05	Surigao (NE of Mindanao)					II–III	
12	2 00	Romblon Island					II–III	
14	5 20	Sarangani (S of Mindanao)					III	
15	16 24	Nueva Caceres (SE of Luzon).					II–III	
17	16 12	Tacloban (NE of Leyte)					III	
17	23 03	Calapan (NE of Mindoro)					III	Registered at Manila.
20	8 46	Talacogon (E of Mindanao)	8.0 N.	125.8 E.			IV–V	
20	22 16	Laoag (NW of Luzon)					III	Do.
22	5 20	Agusan Valley (E of Mindanao).	8.2 N.	125.8 E.	200	80	V	
22	16 42	do	8.2 N.	125.8 E.	150	100	IV–V	
29	12 00	Sarangani (S of Mindanao)					II–III	
Aug. 1	10 30	Guam (Mariana Islands)					III	
4	13 00	Guiuan (SE of Samar)					III	
15	15 20	Sarangani (S of Mindanao)					II–III	
16	18 48	Zamboanga (W of Mindanao).					III	
17	19 15	Southern and Central Mindanao.	NE of Celebes Sea		500	500	V–VI	Registered over the world. At Sarangani numerous aftershocks, during two days.
21	4 31	Southern Mindanao	NE of Celebes Sea		400	400	IV	
21	18 15	Sarangani (S of Mindanao)	do				III	
23	2 27	Baguio (Central Luzon)					II–III	
25	15 38	Talacogon (E of Mindanao).	8.2 N.	125.8 E.	100	80	IV	Aftershock a few minutes later.
27	16 56	Dapitan (NW of Mindanao).	8.7 N.	122.6 E.			V	
28	18 45	Cotabato (SW of Mindanao).					III	
29	3 36	Sarangani (S of Mindanao)					III	
29	13 14	Central Luzon	16.7 N.	120.9 E.	310	230	VI	Registered at Manila. Seven aftershocks, II–III, during the two following days.
29	15 04	Ormoc (W of Leyte)					II–III	
30	18 12	SE of Luzon and N of Samar.	13.2 N.	124.5 E.	500	500	VI	Registered at Manila and Zikawei.
Sept. 1	13 22	Eastern Mindoro and southern Luzon.	13.4 N.	121.7 E.	320	120	V–VI	Registered at Manila.
2	1 10	Nueva Caceres (SE of Luzon).					II–III	
4	0 28	Mindoro and southern Luzon.	13.4 N.	121.7 E.	500	300	VI–VII	Do.
5	15 10	Tacloban (NE of Leyte)					III	
9	1 40	Southeastern Mindanao	7.2 N.	126.6 E.	330	110	IV	
10	11 21	Talacogon (E of Mindanao).	8.2 N.	125.8 E.			IV	
13	20 47	Samar, Leyte and Northeastern Mindanao.	10.5 N.	126.0 E.			IV–V	
16	17 20	Butuan (N of Mindanao)					III	
18	5 05	Santo Domingo (Batanes Islands).					IV	
18	19 00	Mati (SE of Mindanao)					III–IV	
20	11 40	Santo Domingo (Batanes Islands).					IV–V	
21	3 42	Sarangani (S of Mindanao).					III	
23	1 30	Surigao (NE of Mindanao).					II–III	
28	12 45	Cotabato (SW of Mindanao).					III	
29	20 55	Yap (Western Carolines)	In the Pacific, off east of the Philippines.				VI	Registered all over the world.
Oct. 3	16 15	Central Mindanao	7.4 N.	125.0 E.	300	180	VI	Registered at Manila.
4	12 53	Central Luzon	16.1 N.	121.3 E.	310	150	V	Do.
6	3 45	Talacogon (E of Mindanao).					IV	
7	11 36	do	8.2 N.	125.8 E.			IV–V	
7	14 00	Guam (Mariana Islands)					III	
7	20 00	Sarangani (S of Mindanao).					III	Aftershock, III, at $2^h\ 20^m$ on the 8th.

Catalogue of Philippine earthquakes, 1912—Continued.

Date.	Time of occurrence (Greenwich mean time).	Place.	Probable origin or epicenter.		Approximate extensions of the shaken area.		Intensity (Rossi-Forel).	Remarks.
					Longer axis.	Shorter axis.		
	h. *m.*		ϕ	λ	*Km.*	*Km.*		
Oct. 18	12 28	Calapan (NE of Mindoro)					IV	Registered at Manila.
18	21 52	Northeastern Mindanao	9.0 N.	125.4 E.	180	60	IV	
19	2 31	Sarangani (S of Mindanao).					III	
26	9 06	Guam (Mariana Islands)	10.4 N.	140.3 E.			IV	Registered in the Far East and Europe.
26	9 16	Northern Luzon	18.7 N.	121.8 E.	200	170	V	Registered at Manila.
30	3 32	Aparri (NE of Luzon)					III	
31	12 05	Calapan (NE of Mindoro)					IV	
31	17 28	Yap (western Carolines)	10.0 N.	130.6 E.			III	Registered all over the world.
Nov. 1	21 28	Eastern Mindanao	8.0 N.	126.8 E.			IV	Registered at Manila.
4	8 02	Sarangani (S of Mindanao).					III–IV	
8	7 54	Sorsogon (SE of Luzon)	13.1 N.	123.8 E.	250	250	VIII–IX	Registered in the Far East and Europe. Numerous aftershocks during the four following days.
9	5 55	Catbalogan (W of Samar)					III–IV	Repeated at 6^h 05^m.
11	11 55	Northeastern Luzon	18.0 N.	122.6 E.	220	180	V	Registered at Manila.
13	5 49	Agusan Valley (E of Mindanao).					IV–V	
16	7 45	Sarangani (S of Mindanao).					III–IV	
23	1 31	N of Leyte and SW of Samar.	11.7 N.	124.6 E.			IV–V	
23	1 53	Agusan Valley (E of Mindanao).	9.0 N.	125.4 E.	120	80	IV	Aftershock at 20^h 40^m.
23	10 31	Central Luzon	16.4 N.	121.0 E.			IV	Registered at Manila.
25	2 50	Batangas (S of Luzon)			120	120	III	
28	5 50	Talacogon (E of Mindanao).					IV	
Dec. 1	5 36	Sorsogon (SE of Luzon)					IV	
6	5 41	Yap (western Carolines)					III	
6	20 21	Sorsogon (SE of Luzon)					III–IV	
7	0 13	Baler (E of Luzon)	16.2 N.	121.4 E.			III	Registered at Manila.
21	3 29	Sorsogon (SE of Luzon)					III	
23	9 14	Guam (Mariana Islands)					III	
23	10 39	Butuan (N of Mindanao)	9.0 N.	125.4 E.			V–VI	Repeated at 11^h 56^m.
25	13 46	Cotabato (SW of Mindanao).					IV	
26	3 10	SE of Luzon and N of Samar.	13.0 N.	125.5 E.	500	300	V	Registered at Manila.
28	8 01	SE of Luzon, Samar and N of Leyte.	13.0 N.	125.5 E.	560	500	VI	Registered in the Far East and Europe.
28	11 48	NE of Mindanao	9.0 N.	125.4 E.	200	170	V	
31	3 30	Butuan (N of Mindanao)					II–III	

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